

COMPANION MERCHANDISE

KELVINATOR BURNER PRODUCTION STARTS

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limited to a selected number of distributors in key cities as no effort will be made to get national distribution until merchandising experience has been gained with the new product and future sales policies set, it was announced.

Principal feature of the new Kelvinator burner is the variable flame. The flame is always burning when any heat is needed, but its size is regulated by the flow of oil—which is automatically adjusted to the amount of heat wanted.

The method by which the flame is varied to meet the requirement of heat is explained by Kelvinator engineers as follows: "Instead of the conventional type of electrical control Kelvinator uses a non-electric, hydrostatic control which operates similar to a thermometer."

"A container carrying a fairly large quantity of a liquid which expands and contracts in accordance with the amount of heat present is mounted in a room usually on the first floor of the dwelling in the place usually occupied by the thermostat."

"As the temperature of the room increases, the liquid in the container expands. Leading from the container down to the oil valve is a small capillary tube fastened to a bellows which expands and contracts with the expansion and contraction of the liquid in the container."

Briefly, the cycle of operation is as follows: An increase in the temperature of the room expands the liquid in the temperature selector. This liquid in turn expands the bellows, mentioned above, which in turn pushes in on the oil needle valve thereby cutting down the flow of oil to the burner.

The user can obtain the desired temperature in his home by adjusting a screw which operates on the temperature selector and, after once setting it for the desired temperature, the controls as indicated above automatically operate to maintain that temperature.

The device for supplying the exact amount of air required for each quantity of oil being burned is also a new development. As the temperature selector releases more oil, or constricts the oil flow in accordance with the heat demand in the home, the oil before going to the burner passes through a metering device which raises or lowers an air gate thereby increasing or decreasing the amount of the air supply in exact ratio to the amount of oil being fed to the burner.

This provides proper air and oil supply to the rotor head, for which Kelvinator engineers claim a clean, bright flame irrespective of the amount of oil being fed to the burner.

The burner is constructed so that the flame burns in suspension. This combustion method, which is widely used in industrial heating, throws the hottest gases, when completely burned, in contact with the upper part of the boiler where the application of heat is most direct, producing a high heating efficiency. There is a high CO₂ content in the stack gases, showing complete combustion and lack of excess air, they declare.

Because of the fact that there is no repeated starting and stopping load on the motor of the continuous burning Kelvinator unit, a smaller size motor can be used than in other types of oil burners. The 1/20-hp. motor used in the Kelvinator burner has an average current consumption of 50 watts an hour, or a total of 1.2 kwh. a day—36 kwh. a month, the announcement states.

Because the Kelvinator continuous-operation burner does not have to be oversized to give a quick heating "pickup" it requires less fuel than systems where a burner is forced to re-heat periodically a system which has been allowed to cool down.

The burner head is mounted on a pedestal outside of the furnace, and the burner swings in and out of the furnace door. The furnace grates and the interior of the furnace remain unchanged for the installation of this burner.

The fact that the burner swings in and out of the furnace makes it possible for the home owner to use the furnace as an incinerator, its designers point out, as it takes but a few seconds to swing the burner out, empty into the furnace the papers and refuse which have accumulated, swing the burner back into place and incinerate the refuse. This feature is also expected to appeal to customers who rent their homes, as it is not necessary to build the burner into the furnace.

Veos Introduces Pressed Steel Sinks

WARREN, Ohio — Youngstown Pressed Steel Co. is introducing a new line of kitchen sinks which are made from steel finished in porcelain and are featured principally by their light weight.

The new "Veos" sinks are made in six models and are available in 20 sizes. All models are made from single-piece steel. They range in length from 42 in. for the single-drainboard units to 60 in. for the double-drainboard sink. Single-drainboard models may be obtained with the board on the right or left of the basin.

Largest model weighs only 70 lbs., and may be installed by one man, according to the manufacturer. Full aprons or roll rims are optional on all single-drainboard models, and flat-rim and service sinks are also included in the line.

Twenty-two in. is the average overall width of the sink basin. Its depth is six in., the height of the back, eight in. Drainboards range in length from 18 to 28 in.

The new sink is mounted on wall brackets when installed, as none of the models are equipped with legs. Another Veos feature is the drainboard design—a large number of small parallel grooves being used to permit small utensils to stand on the board without upsetting.

Capacity of these sinks has been increased by use of straight (instead of sloping) sides, making the bottom of the sink as large as the top.

AID GIVEN SALESMEN IN HOTPOINT RANGE CONTEST

CHICAGO—"The Quarter Century of Progress" sales campaign on Hotpoint electric ranges, which officially opened May 1, has been built around the salesman, according to officials of the Edison General Electric Appliance Co., in charge of the contest.

Newspaper advertising has been timed to give him maximum support, mailings are being sent to his select prospects, and a large portion of the campaign expenditure is being devoted to educating and stimulating salesmen.

In general the "Quarter Century of Progress" campaign is divided into three major divisions of activity: (1) the employee's sales activity which enlists the aid of all employees who work for a public utility or dealer in all parts of the territory; (2) the consumer activity; (3) the retail salesman's activity—the nation-wide "On To Chicago" retail salesman's contest.

The employee's campaign encompasses some of the following points—demonstrations to small groups of employees, offer of special inducements in the way of low prices and time payments, institution of a plan whereby the range may be paid for through deductions from the employee's salary, special mailings to employees.

Principal theme of customer activity is "making it easy for the public to buy." The campaign portfolio suggests that the following steps be taken:

(1) Establishment of as many points of contact with the public as possible. Display of ranges in all branch and main stores where someone has been trained to sell them. Displays in theaters, banks, and hotel lobbies.

(2) Establishment of a uniform price for all sales outlets. Inclusions of the cost of installation so "ready to use" price can be quoted.

(3) A uniform time payment plan, with smallest down payment and longest terms which are based on sound business practice and which dealers can use in selling.

(4) Creation of incentives to "buy now," such as an allowance on old stoves, if possible, perhaps using allowance as down payment. Free installation, or a standard allowance toward installation costs.

(5) Special low down payments for limited time.

PROMOTIONAL PIECES ARE ISSUED BY TORIDHEET

CLEVELAND—Toridheet division of Cleveland Steel Products Corp. has just supplied its dealers with the first two pieces of a series of sales literature on the new Model C Toridheet oil burner.

One of the mailing pieces is a four-page letter imprinted with the dealer's name, under which, on the blank first page, a personal letter may be written. "A Self Financing Luxury" is the title of the second folder, which compares advantages of Toridheet with inconveniences of coal heat.

Light Weight Kitchen Sinks



Above appears one of the new "Briggsteel" sinks recently introduced by Detroit's Briggs Mfg. Co. The 60-in. model shown here weighs just 70 lbs. At the right is a Veos sink manufactured by the Youngstown Pressed Steel Co. Largest of the six new models weighs 70 lbs. Both manufacturers say that their sinks can be installed by one man.



STANDARD'S TABLE-TOP RANGE SELLS FOR \$89.50

TOLEDO—Standard Electric Stove Co. of this city is now manufacturing a table-top model electric range which retails for \$89.50. It has been announced by Charles J. Pierson, president.

The "Toledoan" as the model is called is a full-size range measuring 45 in. long, 23 in. deep, and 33 in. high. The exterior finish is ivory porcelain

enamel and the oven is porcelain enamel lined.

Four full-size surface burners, one of which is of the "speed-heat" type, are standard with this model. The connected load is 9,300 watts.

Broiler pan and rack and one oven rack are furnished.

The oven has temperature control and plug for clock, the range becoming entirely automatic by the addition of the clock.

Switch panel is recessed to guard against the danger of anyone turning on the burners by brushing against them.

One of the reasons why the range can be offered at such a low price is the fact that Mr. Pierson and his staff, in designing the range, cut down on the number of porcelain enamel parts.

For instance, all other ranges in the line have angle iron frames, but in the "Toledoan" the sheets are framed flush with the binder.

The legs on the Toledoan range have been designed like the legs on most makes of refrigerators, so that the range will lend itself to "designed" or combination kitchens, Mr. Pierson points out.

CONSTRUCTIVE COOPERATION

FRIGIDAIRE

SERVEL

GENERAL
ELECTRIC

UNIVERSAL
WESTINGHOUSE

GIBSON

KELVINATOR

LEONARD

NORGE



Promoting Sales Cooperatively

Leading manufacturers of electric refrigerators, as listed above, are giving generous financial support to the Electric Refrigeration Bureau which for three years has been an important factor in promoting sales.

Through its advertising, through its field men, through its 500 local Bureaus, each carrying on local sales promotion, the Electric Refrigeration Bureau is constantly enlarging the market for electric refrigerators.

Local Bureaus invite the

cooperation of all electric refrigerator sales outlets. Regardless of the brand of electric refrigerators you handle—no matter whether you are an exclusive refrigerator dealer, a hardware, electrical, radio or furniture merchant, your interest and cooperation is desired if you sell electric refrigerators.

In supporting the Electric Refrigeration Bureau you are fostering a most economical means of increasing the market for your electric refrigerator—for all electric refrigerators.



ELECTRIC REFRIGERATION BUREAU

420 Lexington Avenue,
New York City

REFRIGERATION NEWS

Registered U. S. Patent Office

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WESTINGHOUSE IS 6,090 MACHINES BEHIND ORDERS

East Springfield and Mansfield Plants on 24-Hr. Schedule

MANSFIELD, Ohio—With its plants at Mansfield and East Springfield, Mass., working on 24-hour schedules, Westinghouse Electric & Mfg. Co. was 6,090 refrigerators behind orders on May 24, according to R. C. Cosgrove, manager of the company's refrigeration division.

At that time, the East Springfield plant was turning out 700 refrigerating units per day, while the factory at Mansfield was producing 500 cabinets every 24 hours, and cabinet production was being stepped up daily.

Westinghouse' refrigeration sales are approximately 60 per cent ahead of last year's, and orders received from May 1 to 20 were greater than those received during any other full month since the company entered the refrigeration business, said Mr. Cosgrove. He expected that the two plants would be caught up with orders within two weeks.

Stocks of Westinghouse distributors and dealers are now the lowest in the company's history, Mr. Cosgrove declares. Greatest demand is for refrigerators having 6-cu. ft. and 7-cu. ft. food storage capacities.

Sales have shown a considerable increase since the company cut its guarantee period from four years to one year, Mr. Cosgrove said.

BIG-MACHINE GROUP HOLDS 3-DAY SESSION

HOT SPRINGS, Va.—Members of the Refrigerating Machinery Association met at the Homestead here last Thursday, Friday, and Saturday to consider the probable effects of the National Industrial Recovery bill upon manufacturers of heavy-duty refrigerating machines. Representatives of the trade press are not admitted to these sessions, and no official report of proceedings has yet been issued from association headquarters in Philadelphia.

Executives attending the sessions included: Fred Nolde, executive secretary of the association; Emil Vilter and W. R. Kremer, Vilter Mfg. Co., Milwaukee; Henry Torrance, president, and A. H. Baer, vice president, Carbondale Machine Co., Carbondale, Pa.; Louis Baron, American Institute of Refrigeration, New York City; Lee Nusbbaum, Pennsylvania Engineering Co., Philadelphia; W. W. Rhodes, Kinetic Chemicals, Inc., Wilmington, Del.; W. S. Shipley, S. H. Shipley, S. E. Lauer, and L. Kleinschmidt, York Ice Machinery Corp., York, Pa.; J. I. Lyle, president, and E. T. Murphy, vice president, Carrier Engineering Corp.; G. A. Heuser, Henry Vogt Machine Co., Louisville; H. E. Bollinger, Phoenix Ice Machine Co., Cleveland; W. H. Aubrey, D. N. Benedict, and J. A. Mikesell, Frick Co., Waynesboro, Pa.; DeForest Manice and H. B. Carey.

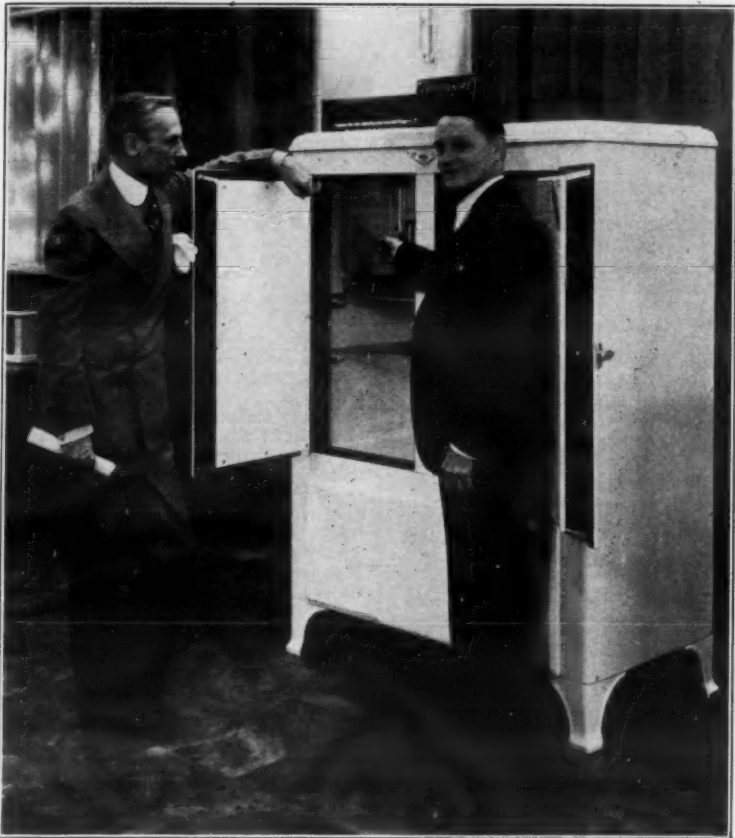
LORD, VICE PRESIDENT OF DETROIT LUBRICATOR, DIES

DETROIT—Herbert I. Lord, first vice president of the Detroit Lubricator Co., died May 25 at his home in Detroit. After graduation from the Massachusetts Institute of Technology, Mr. Lord joined the sales force of the American Radiator Co. in Boston, and was then transferred to Chicago. Later, he was appointed to the position he held at the time of his death.

Bogue to Manage Sales Dept. of Kold-Hold

LANSING, Mich.—A. L. Bogue, formerly associated with Kelvinator Corp. and Copeland Products, Inc., has been selected to head the sales department of Kold-Hold Mfg. Co. here, according to W. G. Farnsworth, general manager.

Sloan Visits Frigidaire Show



Alfred P. Sloan, Jr., president of General Motors Corp., and B. G. Koether, director of sales section, attend the opening of the Frigidaire exhibits at A Century of Progress.

C. T. MUTCHNER DIES IN ARIZONA HOSPITAL

DAYTON—C. T. Mutchner, known to the electric refrigeration industry for his work as publicity director of Frigidaire Corp., died Sunday afternoon, May 28, at the U. S. Veterans hospital in Tucson, Ariz., according to word received here Monday by officials of Frigidaire Corp. Tuberculosis was the cause of his death.

Mr. Mutchner had been in ill health for some time, and took a leave of absence on April 6 to go to Tucson. His wife and child accompanied him to Arizona, and were with him at the time of his death. He was 44 years old.

The publicity director's condition was serious for a month after his arrival in Tucson, but in a letter written to friends in Detroit on May 19, Mrs. Mutchner reported that his condition was believed to be improved.

Mr. Mutchner had been in charge of Frigidaire publicity since 1925, when he joined the Geyer advertising agency (then the Geyer-Dayton Co.) to organize a publicity department for the Delco Light Co., a Geyer account. At that time, Frigidaires were manufactured.

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1,500 Men Added To Factory Staff By Frigidaire

DAYTON—Fifteen hundred additional men have been added to the factory payroll of Frigidaire Corp., subsidiary of General Motors, to make possible peak production schedules for household electric refrigerators, according to E. G. Biechler, president.

The company's Dayton force now numbers in excess of 9,000 persons, the largest since 1929.

HOUSE SENDS INDUSTRIAL RECOVERY BILL TO SENATE

WASHINGTON, D. C.—The National Industrial Recovery bill, which will give the federal government the power to enforce regulation of production, prices, and fair trade practices in industry, was passed by the House of Representatives Friday, May 26, and was sent to the Senate where the finance committee opened hearings on the legislation immediately.

As passed by the House, the bill extends all the excise taxes imposed by

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Refrigeration Exhibits Opened at Century Of Progress

Air Conditioning, Commercial, and Household Models Prominent in Chicago Exposition

By George F. Taubeneck and John T. Schaefer

CHICAGO—Stellar celebrities ranging from Postmaster General James A. Farley to the star Arcturus helped open A Century of Progress, Chicago's 1933 World's Fair, to 175,000 first-day visitors here Saturday, May 27. The crowds tramped over the three and a half miles of reclaimed Lake Michigan waterfront, and took in a bewildering miscellany of exhibits which ran

the gamut from Sinclair's prehistoric animals to the most imaginative types of futuristic architecture.

There were snake-charmers and two-headed humans, dizzy roller coaster rides (although the impressive Sky Ride, erected by the firm which built Brooklyn Bridge, was not yet finished), sight-seeing seaplanes and balloons, beer gardens and capital entertainers, and acres upon acres of exhibits of industrial products.

Refrigeration plays two important roles in A Century of Progress.

One of these roles is the application of refrigeration to models of industrial processes, food-serving establishments, and air-conditioning equipment em-

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Flush Doors Used On New Mohawk Refrigerators

NORTH TONAWANDA, N. Y.—Four new household electric refrigerators, two models of which have flush doors and semi-concealed hardware, are being introduced by the Rudolph Wurlitzer Mfg. Co. here. The refrigerators range in net capacity from 3.9 cu. ft. to 6.5 cu. ft.

All models of the new line have non-freezing fin coils, adjustable temperature controls, coils directly under the ice trays, porcelain evaporator doors with spring hinges, Bakelite shelf supports, ribbon type shelves, removable section in lower shelves to increase bottle storage space, Temlock insulation, and broom-high legs.

A methyl chloride compressor of the V-belt drive type, powered by a capacitor motor, is used in all models, says the manufacturer.

Model 4 has a net capacity of 3.9 cu. ft. and a shelf area of 7 sq. ft. Its two ice trays have a total capacity of 1.5 cu. ft.

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CONOVER IS FIRST IN BUREAU CONTEST

NEW YORK CITY—G. R. Conover, manager of the Electrical Association of Philadelphia, has been declared national winner in the Electric Refrigeration Bureau's Legion of Honor contest sponsored from March 15 to April 15 to select local bureau managers doing the best work in promoting cooperation among electric refrigeration dealers.

In addition to this selection, the national bureau has named winners of the contest for the 11 principal sections of the country in which local bureaus are operating.

In New England, Richard Lincoln of the Edison Electric Illuminating Co. of Boston, and G. G. Smith of the

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PORCELAIN INDUSTRY PLANS TO COOPERATE

CHICAGO—A procedure for initiating a program of inter-industry cooperation and self-regulation by the firms primarily engaged in the manufacture of porcelain-enamelled, vitreous-enamelled, or glass-coated products has been outlined by the Porcelain Enamel Institute in a bulletin to manufacturers of porcelain enamel products.

While the institute inaugurated its plan for a program for inter-industry cooperation before the Presidential message calling for an Industrial Recovery act was made public, the activity is right in line with what is asked of all industry in the provisions of the bill.

As the first step, the institute will sponsor a series of conferences of the firms in the various divisions in the industry with a view of arriving at a plan of immediate action for the stabilization and the elimination of cut-throat prices, to be presented to the whole industry at the annual meeting.

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ICE-O-MATIC DEALERS TO SELL TEMPRITE COOLERS

DETROIT—A cooperative sales agreement has been consummated between the Williams Oil-O-Matic Heating Corp., manufacturer of Williams Ice-O-Matic refrigeration equipment, and Liquid Cooler Corp., manufacturer of Temprite instantaneous beverage coolers, whereby distributors of Ice-O-Matic commercial refrigeration will purchase and resell Temprite beer and water coolers, according to a joint announcement made by these companies.

A 10-day test on Williams Ice-O-Matic condensing units has been run at the Liquid Cooler factory, and their operation in conjunction with the Temprite units was entirely satisfactory, declares D. H. Dolison, sales manager.

G. E. Offers Prizes for Window Displays

CLEVELAND—Four cash prizes, totaling \$100, are being offered by the specialty appliance sales department of General Electric Co. for the best G. E. refrigerator window displays installed by sales outlets. The contest will close July 1.

A cash award of \$25 each will be made for the best dealer window display, best public utility window display, best department store window display, and best distributor window display. Judges will not consider the

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Paul Jones Serves Some Distinguished Customers



W. Paul Jones, advertising manager of Servel Sales Corp., acts as bartender behind Servel's new draft-beer cooler. Others, reading left to right, are Vernon Springford; C. A. Miller, sales manager; F. E. Sellman, vice president; and two office employees.

INTERVIEWS

BY ELSTON D. HERRON

ILLINOIS-MISSOURI

Norge Window Display

As we were walking through the downtown section of Springfield, Ill., May 18, our eyes fell on a window display that brought us to a dead stop. It was The Music Shop at 414 East Monroe St., Norge dealer.

Right in the front of the window was a little wooden figure holding up a book of ice coupons and a placard. The card said, "This ice book was traded in on a Norge. You too can save money."

Back of this figure was a wooden ice box that had apparently seen a good many years of service. On the floor near it was a pair of ancient ice tongs; leaning against it was a rather sorry looking floor mop; and beside it was a big garbage can.

Standing beside the ice box was a large chart showing that the temperature in the ice box varied from 50° F. at 8 a. m. to 62° F. at 10 p. m. Another placard read: "Food leftovers, spoilage—\$4.50 per month; loss in food purchasing—\$3 per month; average cost of ice—\$4 per month; total monthly loss—\$11.50. You can own a Norge for \$5.59 per month."

At the back of the window stood a 1933 all-porcelain Norge refrigerator, with a chart resting against it which showed that the Norge maintains a steady temperature below 50° F.

Having noted all these things, we walked inside. E. L. Young, manager of the store's refrigeration department, introduced us to 27-year-old R. T. Sutton, proprietor.

Messrs. Sutton and Young are enthusiastic about the mildly—about their refrigeration business. They took on the Norge line a year ago, and sold a few less than 100 units. Since Jan. 1 of this year, they have sold more than 100, and say they'll at least hit the 200 mark by the end of 1933.

Thirty per cent of their sales this year have been for cash. On March 31, the day before Illinois' sales tax went into effect, the store sold 19 Norges. Six-cu. ft. models have been the most popular this year, the men said, and the concern's average sale has been \$195.

All this year, The Music Shop has had six men working outside on refrigeration, and the day we made our visit, two more men were being added to the sales staff. The store spends 2 per cent of its gross income from refrigeration on advertising. Most of it is newspaper copy, but Mr. Sutton has found handbills quite effective this season. There were a dozen Norges in stock.

'Sales Very Good'

Capital City Paper Co., at Fourth and Madison Sts., is wholesale distributor in Springfield for Servel and Stewart-Warner. C. C. Hoogland, manager of the refrigeration department, was out when we called, but R. J. Sears, an employee, said that "sales have been very good this year."

Frigidaire Moving In Litchfield, Ill.

Fifteen minutes after our call on the Springfield Norgemen, we were on the road again, headed for St. Louis. On the way, we passed through Litchfield, Ill. (population 6,000). People walking along the sidewalks of the business district looked happy, so we stopped to see if the refrigeration dealers felt the same way. They did.

A. H. Nieman is the Litchfield Frigidaire dealer. He was out selling Frigidaire when we called at his salesroom, but his son, Erwin, was tending store, and told us about his father's business this year.

"Business is plenty good," he started out. "We've sold 12 refrigerators since the new Frigidaire models came out this season, and Dad says we'll have a far better year than we did last. Most of the units we've sold have been all-porcelain 7-cu. ft. jobs. Our commercial business has been slow this year, though."

Mr. Nieman has subdealers in Raymond, Nokomis, and Alhambra, and all of them have done well in the Frigidaire business this year, the son reported. General business conditions in Litchfield are good this spring. The town has several factories, and all of them are working on good schedules; the Brown Shoe Co. factory is going full time. All three of the town's banks are wide open.

The Frigidaire dealer is planning to do some serious selling work on Frigidaire air conditioners this summer, and looks for a pretty good volume of business. He has been with Frigidaire for 12 years, and shares his store with his brother-in-law, L. C. Nobbe, who sells Delco products in the Litchfield territory.

From Cigars to Refrigerators

Two blocks up the street, we saw a store with a 10-Star G. E. and a 6-cu. ft. Westinghouse refrigerator in the window. Inside was the senior partner of the Prange-Zuber Refrigerator Co., Mr. C. D. Zuber, who is 61 years old and just getting started in what he calls his Business Career No. 2.

"I don't know much about the refrigerator business," was his first remark, "but I do know that the things aren't hard to sell. I was a cigar manufacturer for 34 years, and then retired. I couldn't stand having nothing to do, so I got a young partner (Mr. Prange, age 24) and started in to sell electrical appliances."

"I furnished the capital, and Prange does most of the leg work. We just got started last year, and sold 18 refrigerators. So far this year, we've sold four Monitor Top G. E.'s and six Westinghouse units. Half of our buyers this season have paid cash. We'll sell 40 boxes before the year's over."

Most of the store's customers have bought 7-cu. ft. models. Mr. Zuber finances his time sales through the Reserve Discount Co. and the General Contract Purchasing Co. He does some newspaper advertising, but is partial to billboard advertising.

Stock Exhausted in Edwardsville Store

It was after regular store-closing time when the editor and your reporter pulled into Edwardsville, Ill. (population 10,000), but we spotted a couple of refrigeration dealerships still open, and raced to them before they had a chance to shut up shop.

The writer went to the Fink Electric Supply Co., Frigidaire dealer. In the window was a Frigidaire "no more current . . ." display, with everything there except the 4-cu. ft. refrigerator that's supposed to be the center piece.

When we asked, "Where's the refrigerator for the display?" we saw by the expressions on the proprietors' faces that we'd made a mistake. That's just what they'd been asking their distributor.

The partners' names are Leo Fink and Lindell Kniser. This is their first crack at the refrigeration business, and they have found it so good that their stock was completely cleaned out when we called. The same store handled Frigidaire before, but the owners are new.

"How many have you sold this year?"

"We've sold 30, most of them in sizes of 6 cu. ft. or larger. And that's not all. More than half of our buyers have paid cash. We have five unfilled orders right now (May 18), and we're sure we'll sell between 50 and 75 units before the close of the season."

The owners—who wore light grey shirts bearing the Frigidaire insignia, and black ties—both do outside selling, and have another man who does sales and service work for them.

Things Bustling with Norge Co. of Missouri

In all the time we've worked for ELECTRIC REFRIGERATION NEWS, we don't recall ever having had a more pleasant day than that of May 19, which we spent calling on electric refrigeration

distributors in St. Louis. The men were all so cheerful about business that we left each office with a fresh supply of pep.

At the Norge Co. of Missouri, 4000 Laclede Ave., we found things bustling. We talked with A. H. Crow, president of the distributorship; A. E. Bottenfield, general manager; and W. G. Gaston, in charge of St. Louis dealers; and all of them reported one of the finest seasons they've had since they entered the refrigeration business.

At midnight on May 18, the company's distribution in its territory (half of Illinois and Missouri), excluding metropolitan St. Louis, was exactly 243.8 per cent of quota for that period. St. Louis dealers had made 94 per cent of their through-May quota at the close of business on May 18.

The distributor's dealers have delivered 50 per cent more Norges so far this year than during the same period in 1932. Mr. Crow and Mr. Bottenfield said. They are sure that this year's total sales will be at least 50 per cent ahead of last year's. The company has 16 dealers in St. Louis, and over 100 outside of the city.

Thirty-three per cent of the units sold this year have been 6-cu. ft. units of the Norge styled line, 20 per cent have been styled 7's, 40 per cent have been models of 9 cu. ft. or larger. Only 7 per cent have been the two models of Norge's conventionally styled line.

Mr. Crow and Manager Bottenfield are both firm believers in the value of sales promotion and advertising. Since the first of this year, the distributorship has used 17,000 lines of advertising in St. Louis papers alone. A couple of weeks ago, the distributor prepared a sales promotion novelty that is one of the neatest things we've ever seen.

Evidently, the company's dealers thought so, too, because the first batch of 3,000 was used up in a few days, and when we talked to Mr. Crow, he had orders for 15,000 more from his dealers. Incidentally, the piece was prepared by Mr. Crow himself.

It is made from three circular cuts of colored cardboard, stapled together at the center to represent a model of the Norge Rollator trade picture. At the top of the two outer cards are notches, at the bottom of each card is a picture of a Norge refrigerator.

By turning the outside cards to the right or left, the notches may be centered on the name of some frozen delicacy. At the same time, there appears through a number of small squared openings around the refrigerator picture all the ingredients to be used in making that particular food.

And through the compressor compartment of the Norge picture may be seen complete directions for preparing the dish. There are 14 recipes on either side of the piece. One advantage of the piece is that as the housewife turns the cardboards around to find a certain recipe, she will see exactly how the Norge rollator operates.

One of the busiest men in the Norge Co. of Missouri is A. R. Morrison, sales promotion manager. Messrs. Crow and Bottenfield both said good things about his work, and the former remarked that "as soon as Mr. Morrison has made a call on one of our dealers, that dealer's sales show an immediate increase."

The sales promotion manager is especially adept, we were told, at directing contests among the dealers to keep them driving for sales. He has two such contests going full blast right now. One contest is between the Springfield (Ill.) and Decatur (Ill.) dealers, the other between the dealer in Carbondale (Ill.) and the one in Cape Girardeau (Mo.). Losers in the

sales contests will give the winners a banquet, shine their shoes, and serve as general flunkies during the evening.

Just before we left, Mr. Bottenfield read us a part of a letter from E. J. Eaton, Carbondale dealer, telling about a sale made several nights before. Carbondale has had some trouble lately with strikes by coal miners, and the townspeople have done some overtime worrying about it.

Mr. Eaton and one of his salesmen called at a miner's home after dark. They had barely stepped on the front porch when the door was thrown open and two men armed with shotguns stepped out, and told them to "get out and do it quick." When the Norgemen both began to explain that they weren't looking for strikers, they were admitted to the house. An hour later, they left with an order for a KP-60.

Sparton Tries for Apartment House Business

Straus Radio Co. at Twenty-seventh and Locust Sts. is the Sparton distributor in the St. Louis territory. The company has 14 dealers in metropolitan St. Louis, and 30 outside of the city. E. J. Straus is head of the organization.

Mr. Straus said that his company's refrigerator business is much better this year than it was last, and that he has been able to secure some good new dealers this spring. Among them are:

House Furnishings Co., St. Louis; Herman Reck, Alton, Ill.; Blaznic Service Station, E. St. Louis; C. S. Dashner, Red Bud, Ill.; Henke Refrigeration Service, St. Louis; Yale Radio & Electric Co., Maplewood, Mo.; Royal Radio Co., Kirkwood, Mo.; Universal Radio & Supply Co., St. Louis; Stone Electric Co., St. Louis; Merkel Bros. Hardware Co., Quincy, Ill.

Mr. Straus is working hard on the apartment house market this year. He has sold 12 Spartons for installation in the Windsor Hotel apartment building, and said that the building's owners will buy 150 units for use in other parts of the building and in other properties.

Four Spartons have been installed in the Collegiate Apartments this year, and during the past 12 months, the Henry Weisel Realty Co. of St. Louis has bought 50 Spartons from the distributor for installation in its properties.

Mr. Straus' dealers have reported that the 7-cu. ft. double-door Sparton refrigerator is selling best this season. The distributor has a staff of five field men who sell the Sparton refrigerator and radio line to dealers.

Mayflower Distributor Moves 1932 Models

At the Mayflower Sales Co., 827 Lucas Ave., we met E. R. Rauth, the distributor's sales manager. If ever we met a man who apparently loves to sell and has made a real study of salesmanship, Mr. Rauth is that man. His company wholesales Zenith radios and One Minute washers in addition to Mayflower electric refrigerators. M. B. Lasky is owner and president of the distributorship.

"How have your sales been going this season?" we inquired.

"In the last 60 days (previous to May 19), we have sold 600 Mayflowers—1932 models—and 40 per cent of the sales have been for cash. We got the units at a special price from the factory, and our dealers have been selling them at reduced prices. The 6-cu. ft. model, retailing for \$149.50, has been the best seller, our dealers say. We're just getting in our first stock of 1933 models."

This distributor has 20 dealers in

St. Louis, and 60 in the rest of the territory, which includes all of Illinois south of Decatur, and the eastern half of Missouri. Mr. Rauth believes that these outlets will sell 1,000 of the 1933 Mayflowers by the end of the year. Last year, the total of Mayflower dealer sales in the St. Louis area was 1,200.

Mr. Rauth thinks that refrigeration sales in St. Louis will continue to be good until Sept. 15 this year. Here's how he explained it:

"When the breweries opened up in St. Louis, they put a lot of people to work at good pay—people who had been out of work for quite a while. Those people are now paying their old debts with the money they're making, and when those debts are off the books, a lot of the folks will buy electric refrigerators."

The sales manager said that most of the Mayflower dealers in large and medium-sized towns in that territory are furniture men. He believes that furniture stores are the logical outlets for refrigerators, because people feel that such stores may be relied upon to furnish good home equipment, and because a furniture dealer may sell a refrigerator along with other furnishings for new homes, and is accustomed to handling long-term sales.

Small-town furniture dealers haven't proved to be good retail outlets for the Mayflower distributor. Said Mr. Rauth: "somehow they haven't been sufficiently aggressive to sell refrigerators."

One sales rule is stressed above all others in the sales manager's instructions to his six field men and his dealers: "Don't knock competition." And while we were in his office, Mr. Rauth not only refrained from making any disparaging remarks about his competition, but made several highly complimentary remarks about several other St. Louis distributors.

This man has a healthy respect for large refrigeration organizations like Frigidaire, General Electric, and Kelvinator, and remarked that he studies their sales methods closely, and learns a great many things from them which are helpful to him in his own work.

The company's radio business has been good this season, too, as is evidenced by the fact that it has wholesaled 2,400 Zenith sets since Feb. 1 of this year.

Majestic Looks for More Sales During Year

At 1113 Pine St., we visited Herman Hollender, head of the Electric Lamp & Supply Co., St. Louis Majestic distributor. Mr. Hollender reported that his organization, which has 200 dealers in southern Illinois and eastern Missouri, has sold (wholesale) 700 refrigerators since March 1.

Most of the units sold this season have been models of 6 cu. ft. or more. Mr. Hollender believes that this year's total refrigeration sales will outnumber last year's by a substantial margin. His company has spent several thousand dollars this month on refrigeration advertising in St. Louis papers. In April, the distributor sold 600 Majestic radio sets.

An English Salesman Works for Westinghouse

Last call we made in St. Louis was at the main retail salesroom of the Arthur R. Lindburg Co., Westinghouse distributor in metropolitan St. Louis. The showroom is at 222 N. Grand Blvd. There we first met Alec W. Ebsworth and H. G. Spence, two retail salesmen.

Mr. Ebsworth, incidentally, was born in Windsor Castle at Windsor, England, just a few miles from London. His father was an English army officer, and was stationed at the castle with his family at the time of Mr. Ebsworth's birth.

He still has a very marked English accent, and we were wondering what effect that accent would have on a St. Louis housewife interested in electric refrigeration. We found out. While we were talking, a woman came into the store. Mr. Ebsworth excused himself, and started talking to the woman. When he came back to the office, he had a signed order. His only comment was, "My second today."

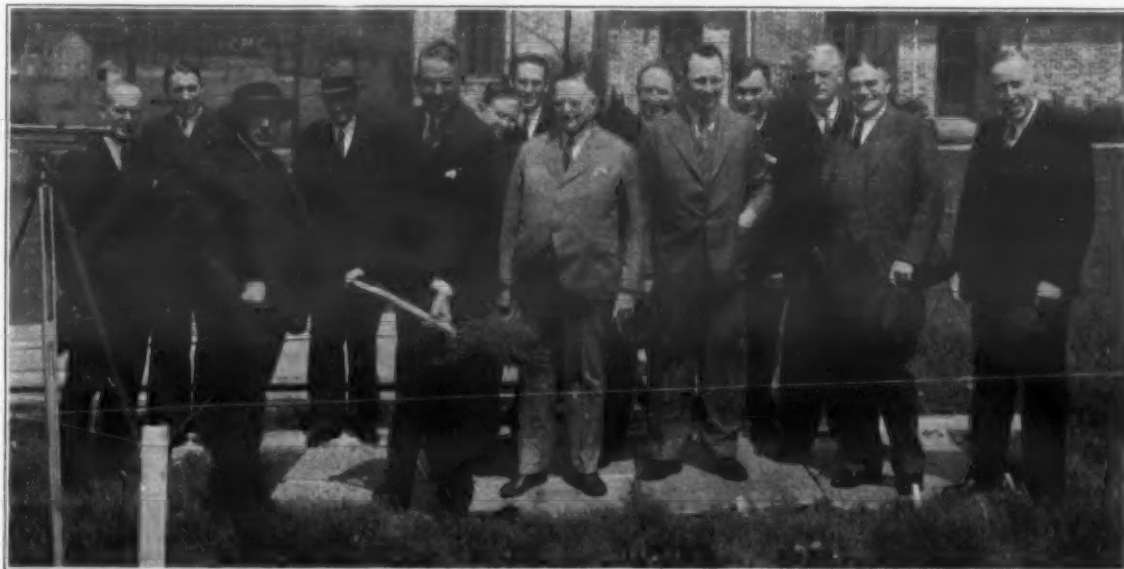
L. C. Klein is manager of the main retail salesroom. When he came in, we asked him how Westinghouse retail sales have been going this year.

His answer: "During the first four months of this year, we doubled the volume of sales we had in the same period of 1932. In April, we sold 238 units in St. Louis through this store, the Famous-Barr department store, and one other of our own retail branches. Our average for retail sales in St. Louis has been between 125 and 150 per month since the start of the year."

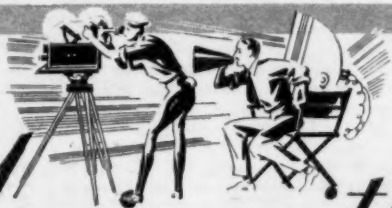
The Lindburg company has 20 dealers in metropolitan St. Louis besides its own retail outlets, one more of which was opened this month. Mr. Klein said that there has been a large increase in the amount of cash business this year, and that the retail store at Grand Blvd. and Gravois Ave. has made 75 per cent of its sales for cash since Jan. 1 (up to May 19).

He also told us that the distributor sold 2,100 units at retail in St. Louis last year, and that Mr. Lindburg anticipates a considerably larger volume of sales this year.

Break Ground for Electrical Home



Ground breaking ceremonies at site of Westinghouse model home in Woodland residential section at Mansfield, Ohio, were presided over by a group of Westinghouse executives including, left to right: J. M. Hipple, general manager, merchandising engineering; Ralph Leavenworth, general advertising manager; F. A. Merrick, president; A. B. Reynolders, works manager, East Springfield; A. W. Robertson, chairman of the board; N. G. Symonds, vice president in charge of sales; R. E. Imhoff, sales manager, merchandising department; Mayor C. M. Lantz; E. M. Olin, works manager, Mansfield plant; R. E. Moorhead, president, Mansfield Chamber of Commerce; C. L. VanDerau, plant superintendent, Mansfield; C. H. Champlain, general works manager; J. S. Trittle, vice president and general manager; and S. M. Kintner, vice president in charge of engineering.



This new Movie with famous Stars
IS "SELLING" THE
GENERAL ELECTRIC KITCHEN
to millions of housewives



Bette Davis, leading Warner Bros.' Star,
 featured in "Just Around the Corner"

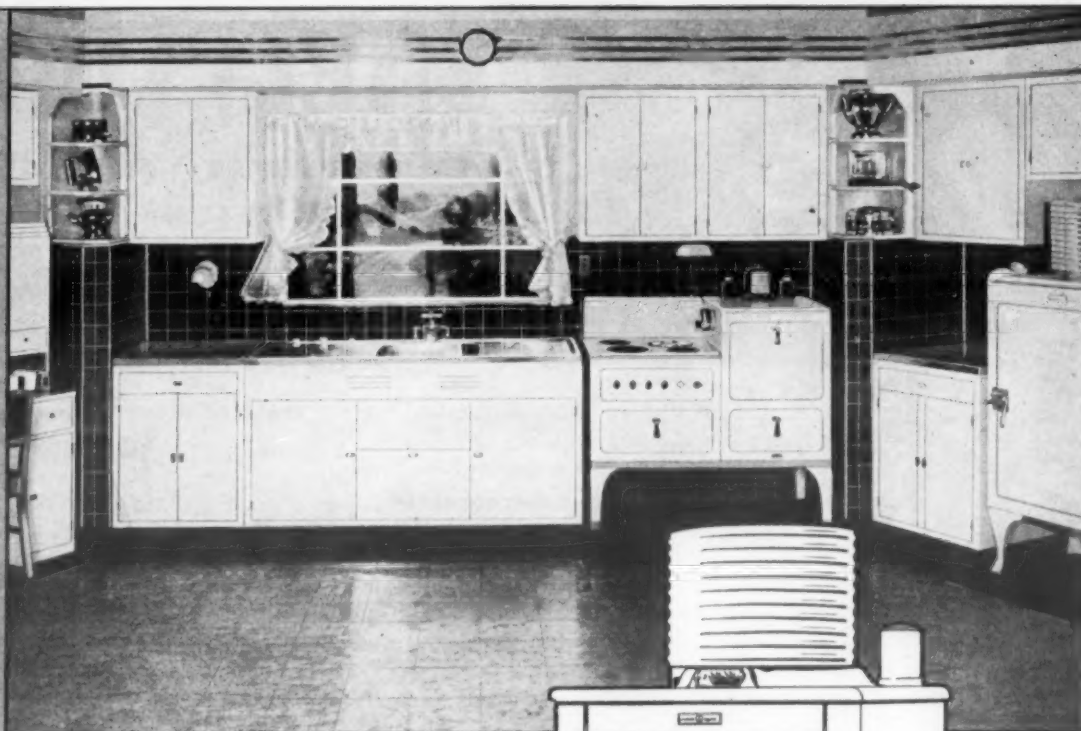


GENERAL ELECTRIC presents a full-length 2-reel talking picture "Just Around the Corner" to the nation's "movie-goers." It is now showing in motion picture theatres throughout the country. Built around the General Electric Kitchen, it is a thrilling dramatization of a modern "honeymoon" couple's up-hill struggle for wealth and happiness. Famous Warner Bros.' stars are featured—Joan Blondell, Bette Davis, Warren William, Dick Powell, Preston Foster and others.

"Just Around the Corner" is creating national interest—and it is just one of

many sales promotion activities now behind the General Electric Kitchen. The "General Electric-42nd Street" Movie Train that recently blazed across the country... the fleet of General Electric Kitchen Coaches... volumes of newspaper and magazine publicity... the June 3rd 4-color center spread advertisement in the Saturday Evening Post... last Sunday's 4-color page advertisement in the American Weekly reaching over 5,000,000 families... are some of the promotional efforts focusing nation-wide attention on the General Electric Kitchen.

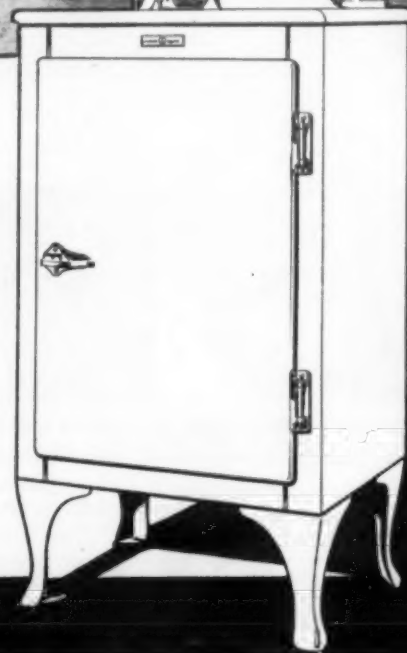
The desire for a
GENERAL ELECTRIC KITCHEN
*stimulates refrigerator sales...
 triples the profit opportunities
 for G-E retailers*



★ When a woman pictures the General Electric Kitchen in her home it acts as a powerful stimulant on the decision to purchase a G-E Refrigerator—the first step towards her goal. And after she buys the refrigerator she immediately becomes a prospect for a General Electric Range, a General Electric Dishwasher and other General Electric Kitchen appliances. For the G-E dealer, a chain of profits starts with the sale of a General Electric refrigerator. This method of ensemble selling, featuring the General Electric

Kitchen, provides a business with continuous profits for General Electric retailers.

General Electric provides a dealer plan of every type—from the highly specialized complete organization to the small unit display operated in connection with other business. Whether it's a one unit outlet or an operation dealing in carloads—there's a General Electric plan for every refrigerator retailer. General Electric Company, Specialty Appliance Sales Department, Section DF53, Nela Park, Cleveland, Ohio.



A CENTURY OF PROGRESS

DISPLAYS OPENED BY MANUFACTURERS

(Concluded from Page 1, Column 5)

played in exhibits which—like a drug-manufacturing demonstration which required tempered air—would not have been possible without automatic refrigeration.

More prominent are the numerous displays of electric refrigerators in model homes, all-electric kitchens, and exhibits of individual refrigerator manufacturers.

Several days of indefatigable exploration, most visitors agreed, will be needed to "do" the fair. Those who came on the opening day found a number of exhibits unfinished; although they were assured that within a week the "whole works" would be ready for inspection.

One of the electrical stunts of Saturday's events was to harness the energy of the star Arcturus (240 trillion miles from the earth) to start the lighting system of the exposition. This star was selected because the rays used to energize the sensitive photo-electric cell Saturday night were those which left the star at the time of Chicago's Columbian exposition in 1893.

An interesting feature of the Electrical building is a three-dimensional plastic picture of generation and distribution of electric power. Here a miniature hydro generating plant (at

the foot of a mountain) supplies a system of transmission lines which feed an inter-connected system of factories, homes, office buildings, and an electric railway.

A sequence of light and darkness on the scene simulates day and night so that the observer sees windows begin to glow in the evening, and the shadowy streets become completely lighted for night.

Air Conditioning

Several installations of air-cooling equipment have been made at the fair, although few embrace winter air conditioning because the buildings were not intended for use after October.

General Electric's "House of Magic" theater in the Electrical building, for instance, is cooled from a duct system installed by G. E. engineers. A battery of 3-ton G. E. refrigerating machines is hooked up to Filtrine water-cooling tanks from which cold water is circulated to coils in the ducts.

The lobby of the large General Motors building, has been air conditioned by 100 tons of Frigidaire equipment, providing cooled air from ducts fed from the basement of the structure. Auditorium of the building, seating 300 people, is also air cooled, by means of individual cabinets refrigerated from three compressors with a total capacity of 23 tons. Fresh air intakes are provided for this installation.

Another interesting installation is that of American Radiator's Decalorator steam-ejector refrigeration system

to air condition the American Radiator building where the complete line of air-conditioning equipment made by the parent company's subsidiaries is on display.

Operating with the Decalorator is a large Sirocco air-conditioning system with glass sides showing how it works. An American Radiator boiler provides 100-lb. steam for the Decalorator, which in turn produces 35° F. water for circulation through the air-cooling coils.

Other products of American Radiator subsidiaries are several types of heating systems, the Arco home humidifier, Detroit Lubricator's expansion valves and refrigeration controls, American Blower's series "R" residential air conditioner (installed with a Universal Cooler refrigerating machine), etc.

Immediately upon entering the Home Planning Hall the visitor's vision is confronted with a model home, erected by the Holland Furnace Co. to demonstrate its air-conditioning products. Guides stand ready to take one through this completely air-conditioned house, and explain details of the equipment which keeps it at a comfortable temperature.

G. E. & Westinghouse

Occupying the main floor of the semi-circular part of the Electrical building, Westinghouse Electric & Mfg. Co. and General Electric Co. display the wide variety of household and industrial electrical equipment which they manufacture.

General Electric made public introduction of its new overhead and floor-mounting room coolers, its new small oil-burning furnace, and its central air-conditioning system for homes. In the same display is a full line of G. E. commercial refrigerating machines.

Adjoining are General Electric Junior refrigerators, Monitor Tops, and Ten-Star models on display, and an installation of the G. E. all-electric

kitchen.

In addition to its household refrigerators, Westinghouse shows its transmission line equipment, miniature models of its electric railway locomotives, and power generating apparatus.

Stewart-Warner Corp. exhibits its new 1933 refrigerators in another part of the Electrical building, demonstrating operation of the condensing unit with working parts.

5 Frigidaire Displays

Five exhibits at various points on the fair grounds bring the attention of the exposition visitors to products of Frigidaire Corp.

Major display is housed in the General Motors building at Leif Ericson Drive and 31st St., where household models, equipment for retail stores, water coolers, and air-conditioning equipment are shown.

This exhibit, which is being managed by J. C. Coffey, is 280 ft. long and occupies an entire wing of the General Motors building at the fair. Besides Mr. Coffey, 13 salesmen and Jean Adair, New York home economist, are present to point out features of the exhibit to visitors.

Background of the display is one of walnut paneling, dotted by luminous signs which call attention to specific features of Frigidaire products.

On a dais in the center of the exhibit is a demonstration of processes involved in porcelain enameling, and other displays to stress certain characteristics of porcelain. A cutaway model shows details of Statflex insulation, while a neon lighting device in the wall illustrates how heat waves are reflected by aluminum foil.

An interesting part of the display is that of Frigidaire's standard line. Submerged in a tank of water is a standard model which has a glass door. Through the glass may be seen a thermometer registering less than 50° F., while the water around the compressor is shown to be about 120° F.

Frigidaire's new 10-ton compressor is on public display for the first time, the fair model being chromium plated to make it a feature of the air-conditioning display.

This is a four-cylinder compressor, driven with notched V-belts by a 10-hp. Delco motor. Features of the machine are its shell-and-tube condenser in the base, a new compact water control, and forced lubrication by means of a built-in oil pump.

A three-ton store unit coil and blower system, operated by a chrome-plated compressor, demonstrates the package-type units suitable for commercial establishments. Horizontal, vertical, and suspension models for domestic purposes are in operation, the compressor housed in a walnut cabinet.

Adjoining the air-conditioning display are the new diamond-fin coils introduced recently. A refrigerated meat display case, an 18-ft. commercial porcelain box and other commercial products are shown.

A cutaway beer cooler, operating with an amber fluid drawn from a mahogany keg, shows the workings of this new piece of Frigidaire equipment.

The water-cooling system in the General Motors building was installed by Frigidaire, and the General Motors Little theater in which lectures will be given throughout the five months of the exposition is Frigidaire air conditioned.

In the Electrical building the company has a second exhibit, and another in the Parade of Enamel. The Florida house features a Frigidaire-equipped kitchen. A Frigidaire biological cabinet is in the medical section of the Hall of Science.

In attendance Saturday were E. G. Biechler, president; H. W. Newell, vice president in charge of sales; C. A. Copp, general sales manager; E. D. Doty, advertising manager; J. C. Chambers, manager of the air-conditioning division; F. C. Lyons, director of education for the air-conditioning division; D. K. Banker, assistant treasurer; H. D. Wehrley, manager of the North Central region; C. J. Allen, regional household sales representative; Fred Kinch, sales engineer; and the following members of the exhibits and window displays division who laid out the exhibit: A. D. Farrell, Joseph Nostal, Insko Williams, Paul F. Bunker, and Paul Buckley.

Norge's Rollator

Designed to symbolize the Rollator compressor mechanism, the exhibit of Norge Corp. is used in a modernistic semi-circular enclosure.

The simple geometric construction of the exhibit was planned by Gustav B. Jensen, industrial designer of New York City. Color scheme is blue, silver, and white.

Inside the circular wall are displayed seven models of Norge refrigerators. Circular chairs covered in white leather are placed for the use of visitors, and at the axis of the circle a large animated model of a Rollator mechanism demonstrates the cooling action in a Norge.

In the foreground, at some distance from the refrigeration display, is an exhibit of other Norge products. One of these, a short-order stove for broiling hamburger and frankfurters, fea-

tures odorless cooking without a flame to carry away the smoke. The Norge electric washer—the Econo-maid—and an air humidifier are also shown.

The humidifier, a new Norge product, is a vertical floor-mounting cabinet with a double centrifugal fan which forces air through a water spray for humidification and passage into the room. Humidification can be regulated manually by a small water valve, according to B. E. Densmore, exhibit attendant.

The unit circulates 125 cu. ft. of air per minute. Total weight is 33 lbs. of which 22 per cent is copper. Top and sides are provided with sound-deadening materials.

Featured in the exhibit is the "Marathon Rollator," a Norge compressor which was started in an open room at the Norge factory more than seven years ago. With the exception of 24-hour periods once a year, when it has been torn down for inspection, the machine has operated continuously since that time.

Majestic Windows

Five large display windows show Majestic products of Grigsby-Grunow Co., together with photographic reproductions which visualize various steps in their manufacture. The exhibit is located in the plaza end of the Electrical building.

The decorative scheme carried as a background for the radios and refrigerators is of a modernistic nature. A cascade of colors is thrown on the exhibit through a special lighting arrangement.

In addition to the official Grigsby-Grunow exhibit, Majestic products are also displayed in conjunction with the Porcelain Enamel Institute exhibit in General Exhibits building, and are included in the furnishings of several modern homes in the Home Planning section of the exposition.

Kelvinator's Exhibit

Directly facing the fountain in the garden of the Electrical building are four "magic window" exhibits of Kelvinator Corp.

J. J. O'Neil is manager of the Kelvinator exhibit, with R. J. Walker and O. A. Norman, also of the Detroit office, who will be in attendance all summer. Ray Martin of the service department was in charge of erection and installation.

These four showcase-type displays, utilizing the French glass principle of reflection, are so arranged that the visitor alternately sees his own reflection and the display of Kelvinator products within the window. Household Kelvinators, ice cream cabinets, oil burner equipment, commercial refrigeration coils, beer cooling equipment, and water coolers appear in the windows.

Operation of these windows is intended to attract attention to the main Kelvinator exhibit, which is directly behind them on the ground floor of the Electrical building.

The exhibit, extending for 100 ft., shows all Kelvinator products. Central prominence in the exhibit is given the 23-cu. ft. deluxe household Kelvinator.

The exhibit shows 27 household refrigerators, five water coolers, three oil burners, three ice cream cabinets, and will shortly have air conditioners.

A Kelvinator deluxe 7½-cu. ft. model has been selected for the kitchen of the model home sponsored by Good Housekeeping and the Stran-Steel Corp.

A supplementary Kelvinator display is to be found in the exhibit of the electrical Central Station Industry, also in the Electrical building.

Servel's Pyramid

One of the dominating displays in the Home Planning Hall is that of Servel, Inc., which is showing Servel electric and Electrolux gas refrigeration products in the same exhibit. Designed in the form of a pyramid two stories high, this exhibit of household refrigerators, water coolers, and commercial machines commands the attention of all who enter.

Especially interesting features of this exhibit are the huge cutaway of the Electrolux mechanism, which is at the visual center of the pyramidal structure, and the contrast between the large, awkward Servel electric refrigerating machine of 1925 and the present small, compact Servel Hermetic compressor.

Gibson's Illusion

Also scheduled to open in this building is the Gibson exhibit. According to Sales Promotion Manager W. R. Marshall, who was on the job Saturday getting the exhibit ready, this display will attract attention with an optical illusion stunt of turning an ancient Gibson ice refrigerator into a 1933 Gibson electric. The full line of Gibson household and commercial refrigeration products are to be shown. A lounge is also being provided.

Other exhibits by electric refrigeration manufacturers, as well as by makers of parts, materials, supplies, and products related to or allied with the refrigeration industry, are slated to open within the next week.

HERE'S THE SALES CLINCHER YOU'VE BEEN LOOKING FOR!

The
SHELVADOR
U. S. PATENT 1699932

An exclusive patented feature of the New CROSLLEY Electric REFRIGERATOR

The Shelvador doesn't need explaining. One glance and the story is told. What a show-room and show-window feature!

With the Shelvador you're a mile ahead of competition. You have something every housewife wants in her new electric refrigerator or is sorry she hasn't in her present one.

Increases "Usable" Capacity 50%
Shelvador actually makes the "small" refrigerator "larger" by increasing the "usable" space. It saves the annoyance of "feeling around" for small, hard-to-find objects . . . puts them where they are easily reached.

Only Crosley Offers It
And remember—only the Crosley Electric Refrigerator can use the Shelvador; for it is an exclusive, patented Crosley feature. Insulation is not sacrificed in the Shelvador—the exterior of the door is extended to permit the use of a standard thickness of insulation.

In addition to the Shelvador, the Crosley Electric Refrigerator—famous last year for its trouble-free, service-free operation, has been refined in several points to make it even better. See your nearest Crosley distributor or write direct to factory.

MODEL D-35 NET contents — 3½ cubic feet. Shelf area—8 square feet. Overall Dimensions: Height, 50½"; Width, 23½"; Depth, 24"; Leg Height, 10½". No. ice trays, 2; No. ice cubes, 42.



\$89.50

MODEL D-45 NET contents — 4½ cubic feet. Shelf area—10.6 square feet. Overall Dimensions: Height, 56½"; Width, 23½"; Depth, 24"; Leg Height, 10½". No. ice trays, 3; No. ice cubes, 63.



\$99.50

MODEL D-60 NET contents — 6 cubic feet. Shelf area—11.5 square feet. Overall Dimensions: Height, 57½"; Width, 29½"; Depth, 25½"; Leg Height, 10½". No. ice trays, 3; No. ice cubes, 63.



\$130

ALL PRICES INCLUDE DELIVERY..INSTALLATION..ONE YEAR FREE SERVICE

Montana, Wyoming, Colorado, New Mexico and west, prices slightly higher.
The Crosley Radio Corporation - Cincinnati
POWEL CROSLLEY, Jr., President. The Home of "the Nation's Station"—WLW

CROSLLEY Electric REFRIGERATOR WITH SHELVADOR
U. S. PATENT 1699932

The biggest month in Frigidaire history

Thousands are buying
this new Frigidaire that
uses less current than one
ordinary lamp bulb



This June more Frigidaires for home use are being built and shipped than have been produced in any single month during Frigidaire's seventeen years of leadership. Frigidaire's plants—the largest refrigerator factories in the world—are working at full capacity to meet the greatest demand in the history of the company.

Thousands have bought the new Frigidaire. Thousands more are buying. Every day it is winning the enthu-

siastic approval of people everywhere.

This new Frigidaire actually uses less current than one ordinary lamp bulb! And it not only sets new standards of economy but of convenience, beauty and quality as well.

Frigidaire products, Frigidaire sales plans and Frigidaire advertising form a combination that means more sales and bigger profits for every Frigidaire dealer. Frigidaire Corporation, Subsidiary of General Motors Corp., Dayton, Ohio.

COSTS ONLY

\$96.

PLUS FREIGHT

INSTALLATION AND FEDERAL TAX PAID

THE SUPER FRIGIDAIRE LINE INCLUDES SIX NEW DELUXE ALL-PORCELAIN MODELS WITH MANY EXCLUSIVE FEATURES—THE FINEST FRIGIDAIRE EVER BUILT

The new **FRIGIDAIRE**
A GENERAL MOTORS VALUE

CONOVER TAKES 1ST IN BUREAU CONTEST

(Concluded from Page 1, Column 4)
Cumberland County Power & Light Co. in Portland tied for first place.

Given honorable mention in this division were G. H. Sander, Public Service Co. of New Hampshire, Manchester, N. H.; C. A. Ingalls, Central Vermont Public Service Co., Middlebury, Vt.; and W. O. Minard, Central Vermont Public Service Co., Claremont, N. H.

Tied for first place in the eastern division were H. I. Sanctuary of the Central Hudson Gas & Electric Corp., Newburgh, N. Y., and G. J. Reichert of the Buffalo, Niagara & Eastern Power Corp., Buffalo.

Honorable mention in this section went to J. H. Van Aernam, New York Power & Light Co., Albany; I. Borstein, Borstein Electric Supply Co., Camden, N. J.; and L. R. Leslie, Delaware Power & Light Co., Wilmington.

R. H. Jones was declared winner in the east central division. He is manager of the Electrical League of Cleveland, Ohio. R. C. Geppert of the Nebraska Power Co. at Omaha was winner in the middle west division.

Honorable mention in the latter section was given to C. E. Michel, Union Electric Light & Power Co., St. Louis; and C. F. Farley, Kansas City Power & Light Co., Kansas City, Mo.

For the Pacific Coast division, J. Clark Chamberlain of the San Diego County Electric Refrigeration Bureau was declared winner, and R. B. McElroy, Washington Water Power Co., Spokane, Wash., was winner in the Northwest division. R. E. Folland of the Electrical League of Utah in Salt Lake City received honorable mention in the latter division.

A. G. Morgan, Virginia Electric & Power Co., Richmond, Va., won in the

southeastern division, and honorable mention went to W. G. Gay of Norfolk's Virginia Electric & Power Co.

In the Great Lakes division, C. E. Collins of the Western United Gas & Electric Co., Elgin, Ill., was winner. H. W. Cooper of the Wisconsin Power & Light Co. at Madison received honorable mention.

North central division winner was L. L. Pelley of the Northern States Power Co. at St. Cloud, Minn., while honorable mention was given to B. L. Palm of the Northwestern Public Service Co. at Huron, S. D.

In the Rocky Mountain division, J. E. Flynn of the New Mexico Power Co. at Santa Fe, N. M., was selected as winner. T. E. Fielder, Oklahoma Gas & Electric Co., Oklahoma City, was southwestern division winner. Honorable mention for this section went to W. E. Clement of New Orleans Public Service, Inc., New Orleans.

FLUSH DOORS FEATURE 2 MOHAWK REFRIGERATORS

(Concluded from Page 1, Column 4)
ity of 36 cubes. This refrigerator has a porcelain interior and a lacquer exterior.

Model 41 also has a lacquer exterior, a net capacity of 4.1 cu. ft. and a shelf area of 9 sq. ft. Its ice trays produce 56 cubes. Model 52 is available in either lacquer or porcelain exterior. Its net capacity is 5.2 cu. ft., its shelf area 10.5 sq. ft., and it has three trays producing 84 ice cubes at one freezing.

Largest model is No. 65, with a 6.5-cu. ft. net capacity and a shelf area of 11.8 sq. ft. It is being offered with either lacquer or porcelain exterior. Eighty-four cubes are produced by this unit at a single freezing.

Nos. 52 and 65 are the models having flush doors and semi-concealed hardware. Gaskets on these models are of the balloon type and are on the door jamb instead of on the door.

INDUSTRY RECOVERY BILL PASSES HOUSE

(Concluded from Page 1, Column 3)
the Revenue Act of 1932, in Titles IV and V, for one year (that is, until July, 1935). This includes the 5 per cent tax on household electric refrigerators.

Electric Tax Shifted

The tax on electrical energy is shifted from consumers to the producing public utility companies, under an amendment sponsored for the Ways and Means Committee by Representative Ragon of Clarksville, Ark. The provision provides for a 3 per cent tax on electrical energy sold for domestic and commercial consumption.

After the bill had passed the House of Representatives, the National Association of Manufacturers, through its counsel, James A. Emery, announced that it would suggest amendments to the industry control section of the bill at the Senate hearings.

The association protested that the proposed legislation would replace private ownership and operation of business with a "governmental bureaucracy," increase competitive handicaps in home markets by failing to provide import control to correspond to increased price, and mean the "immediate and complete unionization of all labor in all industry."

Favors Sales Tax

The statement attacked the two-year limitation clause for the government-business-industry partnership.

With reference to the revenue sections of the bill, the association put itself on record as being in favor of a general sales tax in place of a continuance of the "nuisance" excises taxes and special levies such as the increased gasoline tax and increased income tax schedule.

Porcelain Industry To Plan Program Of Cooperation

(Concluded from Page 1, Column 5)
ing of the institute which will be held June 28 in Chicago.

The institute proposes to organize itself to serve as the instrumentality for cooperative action towards self-regulation on the part of specific divisions of its membership and prospective membership, and to instigate immediate action which would put a stop to unfair competitive practices within the industry.

Such activity embraces the formation of remedial measures, establishment of contact with government officials in order to keep the porcelain enamel industry informed of government moves, and a plan of financing which will take into consideration the two major activities of the institute, which are (a) market development and (b) industry cooperation.

In the bulletin which outlines a plan for initiating inter-industry cooperation and regulatory action, the evils of profitless selling and cut-throat competition which now apparently beset the porcelain enamel industry are set forth in detail. We quote from the bulletin:

"We have reached the point where business enterprises are unwilling to be subject to unfair methods of competition or cut-throat competition all of which are leading American industry into virtual chaos.

"Virtually every unit in our membership is forced to sell its products at a loss on account of mistaken price policies of a short-sighted minority.

"We have in our industry still the conception of an individualistic economic order where the owners of a concern are governed only by considerations of the welfare of their own business, without much concern over the welfare of the industry of which they are a part or of industry on the whole.

"This has resulted in total cessation of profits, and this unfortunately is not only affecting the businesses responsible for selling at uneconomic prices, but also their employees and the employers, managements and stockholders of all other units in our industry.

"Modern industry is organized and has prospered under a profit economy. If we are to continue to live and operate under such form of economic organization, then the only chance of being sure of returns adequate for the development, maintenance, and satisfactory functioning of our enterprises is to be found in profits.

"If there are no profits, the whole profit structure must come down, and there may be substituted some other form of industrial organization which of course would be largely in the experimental stage, and may result in total chaos.

"We must remember also that the fundamental reason for the existence of any business enterprise is the facilitating of human life. Even back of any profit motive is this necessity to facilitate human existence—otherwise there can be neither consumption, demand, nor profits. If the present profit economy fails, it will be through neglect of this idea. Profits in the final analysis are the price mankind is willing to pay to have its life enriched and facilitated.

"Much of the selling without adequate profits or selling below cost is not due to plain cussedness (as some of the competitors at times may justifiably feel) but more often due to false economic thinking, faulty analysis of the market or inadequate information about cost and selling expenses.

"Because in a few instances and under specific conditions and at specific times, lowering the prices of a product intended for purchase and use by individual consumers has resulted in widening the markets for such products, many executives erroneously reason that this policy may be applied generally as a means of increasing consumption of all types of goods, both consumer and industrial goods.

"Profits constitute the only effective driving power of business under our present economic system. If profits do not materialize fairly constantly in a business, it will deteriorate and eventually close up. If many units of the industry cease to make profit, the whole industry deteriorates and other products of a newer industry with sounder price profits will take their place.

"Because of this condition, not only are our individual firms interested in the problem of maintained profits, but the Porcelain Enamel Institute as an association of all of these units, is vitally interested.

"The institute cannot continue to promote its program of expanding the market for porcelain-enamelled products and at the same time expect to be supported financially by constituent units who are losing money from the manufacture and sale of porcelain-enamelled products and supplies.

"Trade associations rightly organized and properly managed may become the instrumentality for voluntary action necessary to remedy such action.

If they cannot or will not function, other means less desirable from our viewpoint may be developed for this announcement purpose."

The bulletin announces that the institute will continue and expand its market development activity, which it has been carrying on for some time.

The five-point program for industry self-regulation is outlined as follows:

(1) That the institute initiate a series of conferences for the free and frank discussion of the abuses and practices harmful to the entire industry or to its specific divisions with a view of arriving at a program of immediate remedial action.

(2) A study of the problems faced by the units in each division for the purpose of developing a long-range program in the light of the plans and legislation now under consideration by the Federal government.

(3) Contact by the institute office with Washington and other sources of information for the purpose of keeping its members informed of the government program insofar as it may affect the interests of our industry.

(4) A plan of financing which will take into consideration the two major activities of the institute, (a) market development and (b) industry cooperation. This plan should insure, through a general fund, the continuation and possibly the expansion of the institute's market development program and then would set up divisional budgets for the inter-industry cooperative activities by various divisions of the institute.

(5) A study of the institute's constitution and by-laws with a view of making necessary changes to enable the institute to function under the new plan.

MUTCHNER, FRIGIDAIRE PUBLICITY HEAD, DIES

(Concluded from Page 1, Column 2)
tured by the Delco organization.

When Frigidaire Corp. was organized as a separate company, Mr. Mutchner, still employed by Geyer, began to devote his time exclusively to publicity for Frigidaire products. Three years ago, he left the advertising agency officially to become a member of Frigidaire Corp., in charge of all its public relations work.

He was born on Nov. 8, 1888, in Winchester, Ind. For two years he attended DePauw university at Greencastle, Ind., then joined the staff of the Richmond (Ind.) *Palladium*. From that paper he went to the *Ohio State Journal*, and from there to the editorial staff of the *Dayton Herald*.

When the United States entered the World War, Mr. Mutchner went to France as a sergeant in the quartermasters corps. During the war he was gassed, and friends report that his health was impaired by effects of the attack.

At the close of the war, Mr. Mutchner returned to Dayton and early in 1919 again joined the editorial staff of the *Dayton Herald*. While working on that publication, his health began to fail, and Mr. Mutchner was obliged to go to the National Soldiers home, where he remained two years.

After leaving the hospital, he again returned to the *Dayton Herald*, this time as city editor of the paper. After holding that position for a short time, he became sales manager of Dayton's Roto-Speed Co., and stayed with that organization until 1925, when he joined the Geyer company to work on Frigidaire publicity for Delco.

In 1927, he married Frances Parker of Clark's Summit, Tenn., and in September of 1930 a daughter, Jane, was born. At the time of her marriage, Mrs. Mutchner was a school teacher.

Mr. Mutchner's first big assignment as a Frigidaire publicity man was that of handling all building announcements, news stories, and dedication plans for Frigidaire's plant at Moraine City, Ohio. In 1928, he went to Europe with E. G. Blechler, president of Frigidaire Corp., to visit the company's sales outlets there.

Shortly after his return in the same year, he went to the Democratic National convention at Houston, Tex., to supervise installation of Frigidaire water coolers in the convention quarters and prepare publicity regarding the equipment's use. He originated and supervised publication of the *Frigid Era*, the company's house organ, until it was discontinued not long ago.

His mother, one sister, and one brother survive Mr. Mutchner, besides his wife and daughter.

G. E. Conducts Window Display Contest

(Concluded from Page 1, Column 5)
size of the window, but the sales appeal, attractiveness, and originality of the display.

Judges are W. J. Daily, department sales promotion manager; Amos Parrish, New York City, nationally known authority on style and merchandising; Rocco Di Marco, art director, Maxon, Inc., Cleveland; Jack North, president, Electrical League, Cleveland; and Ernest Greenwood, manager, commercial section, Edison Electric Institute, New York City.



THESE C. I. T. LOCAL OFFICES
WILL WELCOME YOUR INQUIRY

Akron - Albany - Altoona - Amarillo
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Des Moines - Detroit - El Paso - Erie - Fort
Wayne - Fort Worth - Fresno - Glens Falls
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Harrisburg - Hartford - Hempstead - Houston
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City - Kansas City - Knoxville - Lansing
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SELLING is your job. Financing is ours. Let us pull together
toward a bigger volume this season without sacrifice of profit.

In using C. I. T. you have the advantages of a financial strength
which inspires confidence, and of a quality of cooperation to
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Note the C. I. T. office nearest you. It is a complete financing
unit. It will take your contracts as you make them and promptly
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C. I. T. Plans cover all models of approved types of mechanical
refrigerators and water coolers; also electric ranges and air
conditioning equipment. A large percentage of the country's
most successful dealers use C. I. T. Service. A phone call to
our nearest office will bring a C. I. T. field-man, glad to talk
over with you how C. I. T. Service might aid you.

C. I. T. CORPORATION

NEW YORK — CHICAGO — SAN FRANCISCO

Completely Functioning Local Finance Offices in the Principal Cities

A Unit of COMMERCIAL INVESTMENT TRUST CORPORATION

CAPITAL AND SURPLUS OVER \$70,000,000

WHEW!

IT'S BEEN A TOUGH JOB!

THINGS have been happening at Kelvinator. The last ten weeks have been like a cyclone, headed North.

History has been made—in more ways than one. And the old organization out on Plymouth Road and up in Grand Rapids has done itself proud.

In the middle of March, we announced the lowest price at which a Kelvinator had ever been sold. At the same time we announced that an increase in material costs would necessarily mean an increase in our selling price.

Orders poured into the factory like fans crowding the gates to see a World's Series. From Providence to Portland and from the Soo to Savannah—everywhere, dealers were clamoring for more Kelvinators.

New cards—bearing the names of old employees—hundreds upon hundreds of them—slipped into the time clock and up into the racks. The foremen didn't go home to dinner. The night lights were turned on. And Kelvinator settled down to the biggest production job it ever faced.

In April we shipped 30,116 units. The biggest month's business in 19 years in the industry. And May shipments have been running far ahead of April. Another new record has been made.

Time and expense meant nothing. Quality had to be maintained. There could be no deviation from Kelvinator's precision standards. But orders had to be filled. The dealers must not be disappointed.

It was a tough job. But despite some delays and a few disappointments *we did it* in April—and again in May. And we are tremendously proud of every man in every department of what we believe to be the finest factory organization in the industry.

We take this opportunity to congratulate them on the fine job they have done—the *fine job they are doing*. And we believe every dealer and distributor in the organization will join with us in saying —“GREAT WORK.”

KELVINATOR CORPORATION, 14245 Plymouth Road, Detroit, Mich. Factories also in London, Ont., and London, Eng.

(723)



Kelvinator

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Nema—Pro and Con

SENTIMENT in favor of an All-Industry Conference has been growing for some time and recent events have indicated the need for immediate action. The proposal by ELECTRIC REFRIGERATION NEWS that the Refrigeration Division of the National Electrical Manufacturers Association call such a meeting was published last week and was answered in the same issue. The editorial was written in Hot Springs, Va., following a meeting at which the National Industrial Recovery bill was explained to the members of the association. It was wired to Detroit for publication and then presented to the refrigeration executives in attendance. They took action and forwarded an announcement by wire before the paper went to press.

The plan proposed by the NEWS and the unanimous decision of the Nema group to invite all manufacturers into a conference was stimulated by a telegram from Mr. Thomas Evans, president of Merchant & Evans, Philadelphia, Pa., which was also published last week.

The fact that the NEWS did not follow the procedure suggested by Mr. Evans may perhaps call for some explanation. Mr. Evans proposed that ELECTRIC REFRIGERATION NEWS take the responsibility for calling a conference of manufacturing representatives in Detroit not later than June 5. Mr. Evans took the position that the "present partial affiliation of the industry with Nema is inadequate and unrepresentative . . . there must be a new association . . . that electric refrigeration must be divorced from all alien predominate influences and be organized and operated as a great individual industry, without subordination to any other."

It was our belief, however, that the interests of all concerned would be served best by giving the present organization an opportunity, at least, to offer its services to the industry and to present its claims for recognition as the established cooperative body of the industry.

In taking this view, it was not the purpose of the NEWS to indorse the Nema activity or to discourage any movement for a more comprehensive association. We did consider it desirable that the non-member manufacturers fully understand the past performance and future potentialities of Nema, and that the present members be made conscious of the views and aspirations of the unorganized minority (the term minority applies only to the volume of business).

It is scarcely necessary to argue that more may be accomplished for the good of the industry, and that relations with the government will be greatly simplified, if electric refrigeration presents a united front and if one association is able to speak officially and authoritatively for the industry as a whole. Considered especially in the light of the rapid flow of events in Washington, it appears evident that a division of the industry at this time into two rival camps would lead to endless confusion and would be disastrous to any constructive program.

Our first thought, therefore, was to lend our influence (whatever it may be) in the direction of a single association recognized and supported by all factors. If the present Refrigeration Divi-

sion of Nema can justify its existence, well and good. If not, then it should be abandoned in favor of some other set-up which will meet with approval.

The NEWS strategy (if it deserves the word) is plainly to get all forces together and let nature take its course. If Nema can "sell itself" to the outsiders, that will be a happy solution of the problem. If a new set of leaders wins favor by convincing the assembly that different methods are necessary, it's all the same to the NEWS.

In favor of the present group is the fact that it has some eight years of experience back of it. The activity has not been continuous during that period, but the movement was actually started back in 1925. The first "Electric Refrigeration Council" was formally launched early in 1926. It disintegrated in the fall of the same year. Revived as the "Refrigeration Manufacturers Council" in 1928, it led a precarious existence with few accomplishments. In May, 1928, the group accepted an invitation of the National Electrical Manufacturers Association to become a division and operate under the rules of that well-established body although the plan did not become effective until April, 1929.

But even the counsel of experienced association officers and the assistance of a trained headquarters staff, with well oiled cooperative machinery, did not bring harmony and constructive activity all at once. Refrigeration executives had to get to know each other before they were able to arrive at any degree of understanding.

If anyone imagines that the Nema group consists of a select circle of big company executives who secretly get together now and then to agree upon subtle schemes to thwart small competition, he should revise his notions.

Instead of a combination of big companies against small, it is common knowledge that verbal encounters between the representatives of the two largest producers have provided the fireworks for several sessions. It is probably fair to say that the slow growth of the group, in terms of member companies, has been partly due to the feeling that this small number represented sufficient differences of opinion without complicating the situation by further additions.

Anyone who has tried to organize a group of competitors, and especially in a new industry, will agree that it is no small job. It takes time and plenty of patience. The preliminary skirmishes are not time wasted, however, because freedom of expression and a "clearing of the atmosphere," are essential before a cooperative program has a chance of getting anywhere.

The Nema members deserve credit for having tried to do something cooperatively and the NEWS believes that the record of effort entitles this group to the right of a fair hearing by the industry. We also firmly believe that those opposed to the Nema affiliations should have a chance to present their objections and propose any alternative plan.

It will be a good thing for the industry right now, we believe, to have a free-for-all round table at which responsible executives may get things "off their chests." Executives who are relatively new in the field and who cannot see any "rime or reason" in the policies of older manufacturers may be enlightened by learning other viewpoints. The Nema group, on the other hand, may find that the newcomers are not all destructive raiders and that several new members will materially strengthen the organization.

The NEWS is in full agreement with the arguments that the electric refrigeration industry is more than big enough to have an association of its own and that there is no excuse for domination by other interests. We understand that the Refrigeration Division is already the largest contributor to the Nema treasury. If the dues were the basis of control, the division might possibly swallow Nema rather than be swallowed by it.

If the manufacturers feel that the "predominate influences" over Nema constitute the vital point in determining the suitability of that organization, then we suggest that careful study be made of the constitution and by-laws. In particular, it is important to know how the officers and the board of governors are elected and to what extent democratic methods are practiced.

LETTERS

Speed Imperative

Merchant & Evans Co.
2035 Washington Ave., Philadelphia
Via Air Mail
May 26, 1933.

Mr. F. M. Cockrell, Publisher,
Electric Refrigeration News,
Detroit, Mich.

I want to thank you for your most interesting and comprehensive letter and enclosure (copy of editorial) of May 24 from Hot Springs.

You have assumed a position of leadership which is singularly appropriate because your paper is the mouthpiece of the industry and interested in the industry as a whole, but in an impartial position in respect to individual manufacturing units therein. Your message to the industry displays a broad grasp of the problems of the emergency and offers a program for organization which if developed and brought to fruition is capable of bringing about an entire "new deal" for the health, welfare, and prosperity of the industry and for those who are engaged in it.

I have expressed several times my feeling that the industry is big enough, important enough, and individual enough to justify and demand an independent trade association, untrammeled, uninfluenced, and unattached to any other. It may be that the present association of a majority of the industry with the N.E.M.A. will afford the best vehicle in which to operate temporarily, but ultimately I believe electrical refrigeration should be a free and independent unit—not included officially in any other structure. In fact, it would seem to me that the industry must recognize that the government will virtually require this independence of an association which seeks to function under the proposed Industry Control Act. The aspiration for industry as a whole is that each industry will reorganize itself to secure its economic welfare as a whole and justice and a fair deal for the units comprised in it. It is only with such a partner that the government will deal, and it is only such a partnership that can succeed. It means, therefore, that the industry must include in its team all the players who are willing to play the game fairly. Players who are unreasonably recalcitrant will be subjected to discipline, but the disciplinary organization must be above suspicion and beyond reproach.

I certainly welcome, therefore, the suggestions contained in your proposal and believe that speed is imperative in getting this proposition going. Let us all get together at the first practicable opportunity and council together and adopt a plan of cooperation within the limits permitted by the act.

Now, permit me one more thought: No matter whether there was an Industry Control Act in the making or not, no matter whether there was any departure from the strict prohibitions of the anti-trust laws, this movement for a conference and for an inclusive association in the refrigeration industry would be most desirable and beneficial. There are innumerable benefits to be derived from regulation of an industry without stepping over the boundaries at present provided by the anti-trust laws, and I regret that this meeting cannot be called and held at an early date, regardless of the progress of the bill in question. However, I cannot push that point of view any more effectively than has been done, and I can only hope that Mr. Johnston of the N.E.M.A. will issue the call very promptly for the early part of June.

Again with thanks for your prompt action and sound common sense in the valuable service you are now rendering to all of us, please believe me,

Very truly yours,
THOMAS EVANS,
President.

Dividing Line?

Baker Ice Machine Co., Inc.
Omaha, Neb.

May 22, 1933.

Editor:

The editorial in your May 3 issue, suggesting an All-Industry Conference, is very timely.

Practical operation of any cooperative agreements entered into by the refrigeration industry should certainly consider the problems of all manufacturers in this field. Although your editorial is directed mainly to the household refrigeration industry, I believe you had in mind a conference of the refrigeration industry as a whole.

Just where is the dividing line between household and commercial refrigeration? This should be answered before the proper grouping of the refrigeration manufacturers can be determined.

It would seem to me that there would be two distinctive groups, one comprising those manufacturers of refrigeration products that are of the self-contained type. This covers household equipment and such self-contained so-called commercial prod-

ucts as water coolers, ice cream cabinets, etc. The other group consists of manufacturers of strictly commercial refrigeration products where the installation of a number of component items is involved. There is really a subdivision of this group as the problems involved in the manufacture and erection of plants of 100 tons or more are vastly different than those in the small unit commercial field.

Some manufacturers would be in the first group, some in the second, and a few would be represented in both.

I presume that in carrying out any arrangements for such a conference everything is being considered to tie this in with the present plans of the U. S. Chamber of Commerce and the National Association of Manufacturers, who have been spending considerable time on this general problem in Washington.

J. M. FERNALD,
General manager.

A La Virginia Hanlon

The Stevens
Chicago

Editor:

Isaiah, Ona, and Grace are just as real as that lovable character Pollyanna, or Alice of Wonderland.

George, you wouldn't tell a little girl that Santa is a fake and that jovial creature behind the mustache is her old man? Sure you wouldn't. Nor would you tell "El" Herron there are no fairies.

After all, George, the fairies, the goblins, the Pollyannas, the Isaiahs, Onas, and Graces are the creatures that make life worthwhile. What does it matter if they were conceived in someone's imagination. After a time they become more real to more people than Abraham Lincoln, or Roosevelt.

So, George, Isaiah, Ona, and Grace are here at the fair. Here in spirit, George, so forgive me if I continue to spread the Pollyanna dust.

But thanks just the same for the telephone numbers.

STAN TOBIN.

Editor's Note: The caption, "A La Virginia Hanlon," refers to the famous editorial in the old New York Sun written in reply to the letter of little Virginia Hanlon, who had been told there was no Santa Claus and who asked the editor of the Sun if that were really true. Stanley Tobin's letter, printed above, is in the same vein. (See back page of May 17 issue of ELECTRIC REFRIGERATION NEWS for genesis of this bit of "ribbing.")

False Economy

2638 Book Bldg., Detroit
May 22, 1933.

Editor:

In my opinion, the buyer of a good electric refrigerator may expect from 10 to 15 years of service.

It is not possible to estimate with any degree of certainty the probable life of a modern household refrigerator. All of the older manufacturers can, and do, point to refrigerators that have been in constant use since their first models were manufactured. It is reasonable to assume that, as the result of improvements in design and methods of manufacturing, refrigerators built in recent years will have a much longer life than those early machines.

Because of the long life of a refrigerator, it is false economy to buy a refrigerator that is not adequate for the purpose.

This factor of long life must influence one's judgment in selecting a refrigerator because where such a long period of usefulness is to be anticipated, the costs of operation and maintenance are much more important considerations than first cost.

Unfortunately, in these days of reduced incomes and diminished buying capacity, too much importance is likely to be attached to first cost. This probably is true of the manufacturer and the merchant in even greater degree than it is true of the purchaser. This tendency on the part of the manufacturer and merchant is not altogether a bad thing, because up to a certain point it forces economies in the cost of production and distribution which greatly benefit the buyer.

But when production capacity greatly exceeds buying capacity, the less responsible manufacturers and merchants offer goods of inferior quality which represent extremely poor investments for the purchasers. In view of these facts, one is well advised, in connection with an automatic refrigerator, to place first cost among the secondary considerations.

A cheap refrigerator, because of its inadequate refrigerating capacity and minimum of insulation, must operate a much greater part of the time than a good refrigerator. It often happens that in hot weather an inferior refrigerator permits the temperature of the food space to rise to a point which causes food spoilage.

As an example, it has occurred where a refrigerator costing \$50 less than the better ones resulted in an increase of \$1.50 a month in the electric bill. In five years the supposed saving of \$50 results in an extra expense of \$90 for current consumption. In addition the user has had inadequate refrigeration and no doubt greatly increased service charges because the machine is inferior.

LOUIS RUTHENBURG, consultant,
Refrigeration Division, NEMA.

DID YOU SEE THIS POWERFUL MAJESTIC "SPREAD" in the Saturday Evening Post, MAY 27?

ELECTRO-SEALED Majestic COLD DOME

SEALED IN 1933 TO RUN TILL '55 ...AND LONGER

MAJESTIC ... STANDARDS OF EXCELLENCE AND VALUE IN REFRIGERATION

MAJESTIC
ELECTRO-SEALED REFRIGERATION

Majestic dealers have refrigeration to sell. And they have strong advertising backing to help them sell it. For example, this hard-hitting "spread" in the May 27 issue of the Saturday Evening Post.

The Post will publish another double-page Majestic advertisement on June 17. Meanwhile, leading newspapers in all parts of the country are running sales-building Majestic "copy."

All this advertising is hammering home one big idea—the Majestic Electro-Sealed COLD DOME, symbol of long-lasting, trouble-free refrigeration.

GRIGSBY-GRUNOW COMPANY, Chicago, and affiliates, with factories at Chicago; Toronto; Bridgeport; Oakland; London, England; and Sao Paulo, Brazil

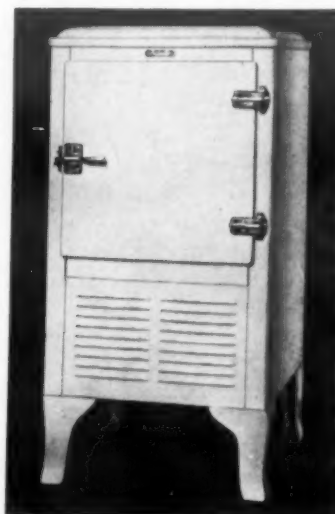
The public is being told to study basic refrigeration features, to compare Majestic's unconditional 3-year guarantee with other guarantees, to insist on ample food capacity and greatest dollar value.

Majestic dealers have more to offer. Study Majestic construction, quality, and value, and you will see why alert Majestic dealers in all sections of the country are reporting: "Business is good, thank you!"

Ask the Majestic distributor whether he hasn't a proposition for you.

Majestic
ELECTRO-SEALED
REFRIGERATION

**A MAJESTIC
FOR \$89.50!**



This new Century model, No. 400, enables Majestic dealers to sell refrigeration to fit the needs of the smallest family and the slimmest pocketbook. Majestic quality, backed by the Majestic name. Food storage space, 8.5 sq. ft.; 2 ice trays; 42 ice cubes. Majestic rotary compressor. Elasto exterior finish; stainless porcelain interior. Very economical operation.

BY GEORGE F. TAUBENECK . . .

All-Electric Kitchen

The kitchen and bathroom are probably the most advanced rooms in the present-day house, together with the laundry. It is sufficient to say that all of them will continue to be equipped with up-to-date electrical and plumbing appliances. Readers of the News are already so familiar with the idea of the all-electric kitchen that we need not discuss it here.

The kitchen will probably undergo much acoustical treatment to deaden the sound of dishwashing, etc. Howard T. Fisher suggests that a soft metal be used in sinks not equipped with dishwashers to lessen the noise and prevent chipping of china.

Air conditioning will have its place in the kitchen to dispel heat and odors. One writer claims that there will be dust-removal apparatus. Certainly cleaning will be simplified, as builders for the future are providing for crackless walls and rounded room corners.

Special Rooms

Suggestions for the bathroom (besides making it a single pre-fabricated unit like the kitchen) include a razor blade slot, 36-in. tubs to prevent slipping and falling, children's fixtures, sun lamps, etc.

Both bathrooms and dressing rooms may be larger. The latter may be used as gymnasium as well, being equipped with sun lamps, exercising apparatus, and massage slabs. Closets, drawers, and cabinets will be built-in. There will be cedar chests and space for luggage, as well as built-in soiled clothes containers, built-in shoe polishing cabinets, and other conveniences.

Bedrooms may become sitting rooms, with the further use of dressing rooms and sleeping porches. Other plans call for bedrooms constructed like staterooms on ocean liners, with built-in bunks replacing beds.

Recreation rooms will probably assume added importance—especially with the addition of roof space. Roofs will really be extra rooms; and equipped with fireplaces, may be used in spring and fall as well as summer. The Solon house roof could be flooded in winter for use as a skating rink.

Most important function of roofs will likely be that of serving as sun

rooms. Play spaces for children (properly parapeted to prevent falling over the edge) can be located there.

Heating & Ventilating

Heating and ventilating of future houses is very much a matter of conjecture at this time. Experiments with all sorts of equipment are being tried; but the final selection of heating-plant and air-conditioning devices will depend largely on the type of home the future brings forth.

For instance, if there is no basement, a combination heater might replace the old furnace.

With new materials, there should be a large saving in cost of heating the house. It is estimated that one-half of the heat is lost through masonry walls in the first six hours of firing. Metal walls, with efficient insulation, may reduce this to a negligible quantity.

Douglass Haskell considers that some day we shall be able to turn on

Homes of the Future

This is the fourth and last of a series of articles dealing with new developments in house construction—developments which may vitally concern specialty selling organizations.

the heat in our homes as easily as we now turn on lights.

"In the future," he claims, "we will return again to that excellent heating system—already in use in Japan and Europe—of evenly heating the whole floor, or floor and walls, so that they themselves act as the radiator and the cumbersome fixtures are gone.

"At the new British Embassy in Washington, D. C., for example, the entire ceiling radiates heat downwards. This is said to have the advantage that persons sitting down get the whole benefit of the radiation, while people moving about are cooled by their contact with the air, for it is not the carrier of the heat."

Homes will be air conditioned, either completely or in part. Room coolers and humidifiers will constitute the air conditioning "in part."

If a central system in connection with the heating plant is not used, small air conditioners may be placed in individual rooms. Cooling of the bedrooms and kitchens in summer will be common.

Obstacles

Little has actually been done in construction of new houses. Several are now being exhibited at the World's Fair in Chicago, which may give impetus to building with new materials and methods.

Secondly, various groups oppose or disagree with glorified housing schemes as described above. Mass production is not accepted by builders and by some writers as the ultimate solution. *Architectural Record* is unconvinced on the subject. Temperance is even urged by steel men.

"In dealing with new building products," says Robert Tappan in *Iron Age*, March 16, 1933, "it is always a temptation to cloud the issue by attempting to exploit them as patented novelties. This seems to be an unavoidable step in the introduction of steel to the house building public.

"Inventors, fired by enthusiasm for their own novel ideas, overlook the basic problems of custom, tradition, transportation, and merchandising.

"Houses require local assembly. They cannot be economically pre-manufactured in one place and assembled individually in another, without involving established trade channels.

"It should be the object of the steel industry to introduce the steel skeleton idea for homes on its merits as a time saver, but not as a patented novelty."

In spite of the enthusiasm, the need for good housing, the progress of invention, and the organization of companies to undertake pre-fabrication of houses, the road to the much-discussed home of the future may be rocky and long.

Tradition, organized building trades, smart money, and human inertia are difficult things to circumvent.

Century Homes, Inc.

America's first glass house is making its appearance at A Century of Progress, the Chicago's World's Fair, this summer.

Built chiefly of steel and glass; the house is circular in form and radiates out from a central tube of steel, about 3 ft. in diameter, which closely resembles an ordinary smokestack. In actuality this is the spinal column of the house for not only does it give necessary supporting strength to the frame, but it also encloses the sensitive nerve centers upon which comfortable housing depends—electrical conduit, plumbing and gas lines, telephone wires and air-conditioning ducts.

Exterior walls of the living decks are made of plate glass, especially fabricated for clearness of vision and admittance of the health-giving rays of the sun. The reason for so much transparent material in exterior walls is that any desired intensity of light may be had. On dark foggy days a cheerful bright interior may be obtained; on brilliant sunny days, light intensity can be controlled.

Three Lines of Defense

The two attendant evils of curious neighbors and small boys with stones are ably handled by George Fred Keck, architect, who has designed the house for the owners, Century Homes, Inc., of Chicago.

Each wall unit is supplied with three lines of defense: first are Venetian blinds faced with aluminum foil; these blinds are of a type which will deflect the infra-red rays of the sun (which produce heat) and admit only ultra violet rays. In this way the occupants of the room will enjoy all of the benefits and none of the discomforts afforded by the sun.

The second line of defense consists of roller shades which pull up from the floor, so that a few feet of elevation will cut the view of the passerby. They are also lined with aluminum. These, in turn, will reflect both heat and cold as well as keep the neighbors from seeing the family skeleton.

Colorful curtains which will be drawn across the windows from the side complete the safety devices.

Paradoxically, though entirely of glass, there is not a window in the house. Drafts, excess heat or cold, and the parching effect of steam or hot water radiators are supplanted by a modern air-conditioning plant which keeps the atmosphere at the incomparable perfection of a day in June.

The air-conditioning system is automatic in every detail—cleaning and washing the air, cooling or heating it to the right temperature, and introducing the proper humidity. Smoke and dust are whisked away as the air

completely recirculates every 10 minutes.

Electricity comes into its own, and no device is missing that might aid the comfort of intelligent living. Electric plugs are a part in the metal trim with which the house is finished. Electrical devices can be plugged in anywhere from the front door to the living floor in a twinkling.

The electric eye controls the dining-room door, so it will open obediently at the approach of a tray of dishes. Telephone loiters about conveniently at every hand. The garage door opens by a radio-controlled device installed on your car, and a 40-ft. hangar door goes overhead in a fraction of a minute, at the mere press of a button.

The owner's airplane and car, housed on the ground level, will be novel features in step with the spirit of the house. The plane will present a new type of design, allowing the sociability and comfort of an open roadster, while the car will give many a visitor his first view of complete streamlining.

G. E. Designs Kitchen

Mrs. Housewife will go home with her sleeves rolled up for a remodeling job after she visits the kitchen of the "House of Tomorrow" at the fair.

Designed by the General Electric Kitchen Institute, its light gray cabinets trimmed in a deeper shade of gray and chromium, its Monel metal counter tops and sink, its concealed lighting panels, gleaming electrical labor-saving devices and scientific arrangement should make her heart yearn for a "new deal."

And best of all is its planning desk. Convenient drawers for recipes, telephone at hand, and a radio to tune in your favorite household hour, makes the desk a full-fledged office from which to operate the home.

The child's room brings in a new motif. With disappearing beds that make way for electric trains and dolls, plenty of storage space for toys and books and an aquarium that occupies an entire wall, the room has been a magnet for the children visiting the fair. The aquarium will be replete with brilliant tropical fish, friendly turtles, swaying water plants and glistening bubbles.

Furniture

Against a background of gleaming carrara glass walls, and placed on a "blocks on end" parquet floor of walnut, which is smooth and dustproof, the contemporary furniture makes its appearance. Designed and executed with Irene Kay Hyman of Chicago, interiors consultant, the comfort and utility of the new furniture justify the theme of functional beauty.

The living portion of the house being located on the second floor above the entrance hall, heater room, workroom and recreation room, the entire roof of the hangar and motor room is available as a living terrace.

Here it will be possible to hold card parties on warm summer nights, bathe in the rays of the sun behind portable screens, or merely enjoy the out-of-doors with a book and a refreshing drink under a gay sunshade.

Above, on the observation deck at the top of the circular staircase around the central column, will be found every semblance of a private yacht from deck chairs to rail, while the central glassed-in room will contain a conservatory where flowers and plants can be raised all year round.

Philosophy of 'House of Tomorrow'

Considered from an architectural standpoint, the following statement by Mr. Keck briefly summarizes the philosophy of the "House of Tomorrow."

"The house is conceived not on a price basis but as an opportunity for manufacturers of building materials to display to a large section of the public new ideas that have been developed.

"Except as an enclosure for living with its various accessories necessary for comfort, nothing in this house will approximate what people have been accustomed to find in a house. Rooms are not square, walls are not masonry, living rooms are not on the ground floor.

"The steel frame is exposed, forming in itself decorations; heating ducts are also used for functional ornament. There is no basement; windows in robes, easily cleaned, are substituted. There is no basement; windows in all cases are fixed; no windows in the house open; all ventilation is controlled by the air-conditioning system. There are no electric light fixtures or brackets as they are popularly known.

"Roofs are terraces to be lived on. Airplane hangar and a garage are integral parts of the house.

"The house has 12 sides and is mainly circular in form, with a circular stair up the center core. No part of the house is below grade line. This laboratory house is designed not to be different or tricky but to attempt seriously to determine if better ideas and designs for living can be found.

"Cost is not stressed because this house, similar to the majority of houses ever built, is still custom built. If some of the new ideas are sound, it is entirely possible to develop them and work out a large scale production that will lower costs.

"Probably the most important function of this particular house is to determine how a great number of the people attending A Century of Progress will react to ideas that will entirely upset the conventional ideas of a home.

"It is possible that it will be laughed at as being absurd and impracticable, as was the first automobile, or the first airplane, or the first railway train. It is undoubtedly true, too, that there is no single solution to the individual house, but many; no single material to solve the problem, but many.

"With varying individual requirements it is possible to hazard a guess, then, that future houses will be designed and built to fit requirements of the materials used and their possibilities. This alone will give us more types and varieties than we have ever before had.

"Nor is it argued that many homes as they are now built are wrong. Man, unfortunately, can adapt himself to a set arrangement of rooms and feel he is comfortable. Many such arrangements are entirely practicable and good. Can they be better?

"In this rapidly changing machine age, is there possibly a change in requirements? Does the house of yesterday, designed to meet the requirements of traditional styles, meet the requirements of 1933?

"Heretofore appliances and conveniences, as they were developed, were installed in the traditional house with little change to the exterior. This house is an attempt to change the house radically.

"The idea is not new; a few architects have attempted to do this for years and some have been eminently successful here and abroad. The most successful houses are not available for public inspection. The 'House of Tomorrow' is built solely for public inspection.

"This house cannot burn; it is highly fire-resistant; it does not shrink or settle unevenly; and has a minimum upkeep cost. It has no spaces, large or small, in interior construction that can in any way harbor or accumulate dirt and dust or vermin. Where there is a floor, it is a solid material; and so with walls, interior, and exterior.

Smooth Exterior

"The exterior surfaces are smooth and functional as are interior surfaces of walls and floors. A minimum of effort is necessary to keep them clean and sanitary. An effort has been made to make these surfaces of a material in itself beautiful, so that redecoration may never be necessary. There are no dark spaces, harboring mould and decay. If necessary the walls, floors, and ceilings can be scoured with soap and water.

"The circular appearance of the house reduces exterior wind pressure, thus reducing infiltration of air, the same principle as streamlining a motor car. This feature makes it possible to reduce structural strength with a consequent saving in cost. It also gives one maximum interior floor space with minimum amount of exterior wall area.

"For the purposes of the house at A Century of Progress, the third floor is developed as a conservatory because there would only be a duplication of bedrooms. This floor can be extended slightly and several extra bedrooms with baths can easily be installed, thus caring for a larger family or guests. The additional cost would not be great.

"The ground floor contains the airplane hangar and garage, heating and cooling unit room, a workroom, laundry facilities, a recreation room and entrance hall. The second or living floor contains a combination living and dining room, kitchen, two sleeping rooms, bath and terraces.

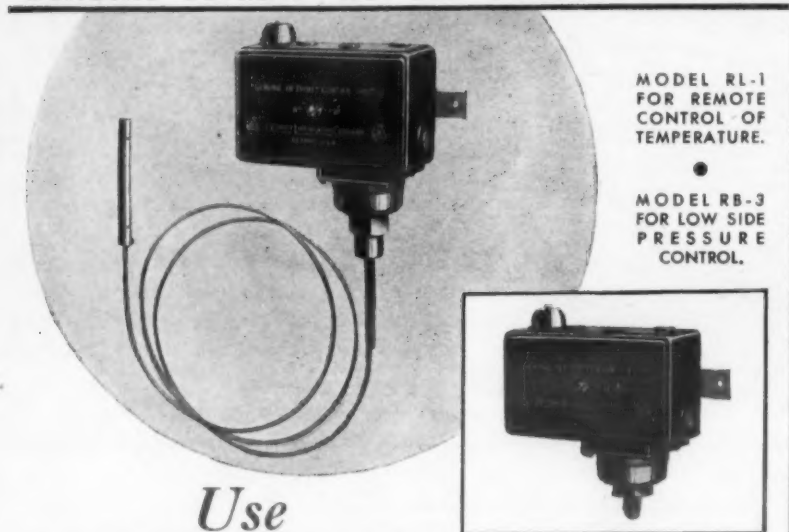
"The third floor contains a conservatory or lounge with terraces. This room will be treated in a marine manner with deck chairs, etc. because of the proximity of this house to Lake Michigan."

New Uses for Metal Furniture

Working with the Howell Co. of Geneva, Ill., the decorator has evolved new uses for metal furniture and fresh shapes to some of the better known pieces. The automobile chair, a lounging chair that has been developed from the rear seat of the automobile, is typical of what is being done along this line.

Rare veneers, simple, direct forms and exquisite workmanship will be present in the wood furniture. Tapp, DeWilde & Wallace, Inc., of Chicago, have been entrusted with the cabinet work throughout the house, from the play cabinet in the children's room that contains tanks for tropical fish, to the intricate triangular table that stands on two legs and holds aloft three shelves formed by a continuous bending of wood.

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FEDERAL INTRODUCES SET OF ACCESSORIES

PITTSBURGH—Federal Enameling & Stamping Co. of this city is introducing a "unit" set of refrigeration accessories consisting of five food containers of various sizes and shapes. The set is priced at \$8.95 list.

John A. O'Brien, formerly special representative for the Atwater Kent Mfg. Co., has been placed in charge of the refrigeration division for Federal Enameling & Stamping Co. and will devote special attention to increasing distribution of the new five-piece set.

The Federal "Big 5" set consists of three "food saver" containers, an extra deep drawer-type vegetable freshener and a seamless water cooler.

It is claimed that the five-piece set will double storage content of a refrigerator, besides providing closed and non-contaminating compartments for proper handling of foods that require separate storage.

Mr. O'Brien points out that the new utensil set embraces three separate sales possibilities—first, as standard equipment with new refrigerators; second, as something a dealer can sell to users; and third, as promotional merchandise which the dealer can use to call attention to a model which he is featuring.

\$136,769 WORTH OF UNITS SOLD BY GEORGIA POWER

ATLANTA—With players batting out singles, triples, and home runs to the score of \$136,769 worth of refrigerators sold in 12 days, the "Hit the Ball" refrigeration baseball campaign launched by Georgia Power Co. May 4 is now nearing the end of its fourth week. Fifty-four per cent of quota was reached in less than 24 per cent of the contest period.

Designed to sell a quota of \$250,000 in Kelvinators and General Electrics by June 1, the campaign is being carried on by branches of the utility, which have been dubbed the Atlanta Yankees, Athens Athletics, Augusta Senators, Columbus Cubs, Macon Pirates, and Rome Giants.

Points are scored on the basis of runs and hits, every \$100 in domestic sales counting for one base, and every \$150 worth of commercial sales scoring a base.

In addition to cash and merchandise prizes earned throughout the contest, a trip to the Century of Progress exposition in Chicago will be given the 11 high salesmen, supervisors, and district managers at the end of the campaign.

First to reach the 100 per cent mark in quota were the Augusta Senators, led by F. B. Culley, division manager, and managed by Jack McDonough, division sales supervisor. Rounding the greatest number of bases in the first 12 days, the Senators recorded 102.8 per cent of quota last week.

Hundred-per-centers among the local stores are those in Clayton, Hawkinsville, Summerville, Cornelia, Greensboro, Ocilla, Nashville, Jonesboro, Jefferson, Statesboro, Baxley, Gainsville, and the main store in Atlanta.

Newark Distributor Names 11 Dealers

NEWARK—Apollo Radio Co., Inc., of this city, distributor for Crosley refrigerators, has recently appointed 11 new dealers to handle the Crosley line of refrigerators, according to Fred Goldberg, treasurer.

The new Crosley refrigerator retailers are: J. L. David, Passaic; J. K. O'Dea, Paterson; J. Schwartz, Inc., with stores in Red Bank and New Brunswick; C. O. Anderson, Dover; A. Lifson & Son, Elizabeth; Taylor Department Store, Belmar; Simon Bauman, Inc., Jersey City; Miller Radio, Highland Falls; Haven, Giff & Havens, Lakewood; and Earl Lamoreaux, Monroe, N. Y.

Sparton Appoints 7 New Distributors

JACKSON, Mich.—Seven distributors which have recently taken on the Sparton radio and refrigeration lines, according to Harry Sparks, vice president in charge of sales for Sparks-Withington Co., are Harbour Furniture Co., Muskogee, Okla.; Philadelphia Motor Accessories Co., Philadelphia; Wakeman and Whipple, Inc., Chicago; Foster Auto Supply Co., Denver; New Castle Hardware Co., New Castle, Pa.; Joseph Straus Co., Buffalo; and Essex Distributing Co., Newark.

MARTIN MUSIC CO. TO SELL MAJESTICS

CHICAGO—Martin Music Co., Springfield, Mo., has been appointed distributor for Majestic products in southwest Missouri and northern Arkansas.

You Dealers Have Bared The Facts

You dealers have certainly said a mouthful! We wonder you haven't spoken up before. For, surely, the industry is interested in what you know the public wants in electric refrigerators.

We believe the man who talks day after day, week in and week out with prospects, who has been in the business and has seen its opportunities and its abuses ought to know pretty well what he can sell.

So we went right out to you fellows to get the low-down. We asked you a lot of questions. We found you in big cities, in small towns, handling all makes, at all prices.

The things you say make it begin to look as though you dealers don't agree with a number of the manufacturers in some important respects. You know what your individual opinions and experiences are—perhaps you'd like to know what the other fellow thinks.

What we are finding out is startling. The information is now being tabulated and will be turned over to Mr. Taubeneck of Electric Refrigeration News in a few days.

Watch the News for some vital, interesting and striking news about what the public wants in refrigeration.

Dry-Zero Corporation, Merchandise Mart, Chicago, Illinois. Canadian Office: 687 Broadview Avenue, Toronto.

THE MOST EFFICIENT
COMMERCIAL INSULANT KNOWN **DRY-ZERO**

BEER COOLING

DETROITER DEVELOPS NOVEL SYSTEM FOR COOLING DRAFT BEER

DETROIT—A new type of cooling equipment for draft beer in which water for a sweet water bath is cooled by being pumped over direct expansion coils formed in a cone-shaped spiral, which is apart from the water bath, has been developed by Benn F. Klein of the Chatlin Store Fixture Co., 2300 Woodward Ave., here.

The water which is pumped over the refrigerant coils drips into the sweet water bath in which the beer coils are placed. The water is taken from the bath and forced over the coils by means of a water pump.

Maintains Desired Temperature

Principal advantage of this type of cooling is its ability to maintain any desired temperature (down to 34° F.) and the close temperature control, within 1½° F. of the desired temperature at all times, which is maintained by means of a Detroit Lubricator thermostatic control.

The thermostatic element is placed in the sweet water bath and controls not only the flow of the refrigerant but also the operation of the water pump. When the water bath reaches the desired temperature the thermostat cuts out the refrigerant flow and the water flow, and cuts it in again upon a 1½° F. rise in temperature.

Ice Visible to Customer

The 36 ft. of ¾ in. copper refrigerant coil shaped like a cone is placed on top of the dispenser and is surrounded by a glass dome. The ice which forms around the cone serves to make the equipment a "silent salesman" for cold drinks, Mr. Klein believes.

A pipe in the center of the cone brings water from the bottom of the sweet water bath to the apex of the cone and bubbles it over the sides of the cone. The water flow is at the rate of 30 to 35 gal. per hour with a pump using a 1/20-hp. motor and a small water distributor, Mr. Klein declares.

Block Tin Coil

For each spigot in the dispenser there is 80 ft. of block tin beer coil. Mr. Klein points out that in case of failure of the refrigerating mechanism to operate, the cabinets lends itself readily to direct icing.

The Klein beer dispenser will operate with any make of a ¼-hp. methyl chloride compressor.

Apex Designs New Self-Contained Dispensers

CLEVELAND—Apex Electrical Mfg. Co., manufacturer of the Apex electric refrigerator and other electrical appliances, is in production with a line of self-contained, draft-beer dispensing cabinets.

The Apex draft-beer coolers employ the Temprite instantaneous cooler. The line includes three sizes of dispensing bars which may be equipped with any one of three Apex cooling unit models.

Smallest of the dispensing units is No. 18-S, a coil box which may be used as a service bar. It is 24 in. long, 28 in. wide, and 42 in. high, and is constructed throughout of copper bearing steel. Upper half of the box is finished in stainless steel, the lower half in black porcelain enamel except at the back.

Model 448-S is a small service bar with storage space for one half-barrel of beer. It may be used as the dispensing division of a large bar, or may be used as a separate unit. It is constructed of copper bearing steel insulated with 2½ in. of cork. The top is of mahogany and is 18 in. wide, fitted with a 12x18-in. drainboard.

This model is 48 in. long, 28 in. wide, and 42 in. high. It is available with an exterior of two-tone stainless steel or metal wood finish. Operating side of the bar is stainless steel. The barrel storage compartment may be fitted with shelves for bottle storage, if desired.

Largest of the cabinets is model 2248-S, which is 82 in. long, 28 in. wide, and 42 in. high. Draft arms are in the center of this model, with space for storage of one half-barrel of beer on either side of the faucets. Materials and finishes of this bar are similar to those of model 448-S. One of the barrel compartments may be used for bottle storage.

Apex refrigerating units available for use in these dispensing cabinets are models 1T-25, 1T-33, and 1T-50. First is a ¼-hp. unit, the second ½ hp., and the last, ¾ hp. The smallest unit may be used with one or two coils, the ½-hp. unit with one, two, or four (when two coolers are used), and the largest with one, two, three, or four coils.

Beer-cooling capacities of these various compressor-and-coil combinations range from 7½ gals. per hr. to 50 gals. per hr. for each outlet, according to the manufacturer. If the purchaser desires, the refrigerating units may be installed remotely.

HAROLD L. SCHAEFER BRINGS OUT HIS OWN BEER-COOLING UNITS

MINNEAPOLIS—Harold L. Schaefer, Inc., distributor of Universal Cooler's household and commercial refrigeration equipment, is introducing a line of beer coolers designed by its own engineers for use with Universal refrigeration units.

One of the new coolers is a self-contained cabinet having two draft arms and storage space for 70 pints and 24 quarts of bottled beer. This combination service bar is 49 in. long, 18 in. wide, and 44½ in. high, and is available in walnut or mahogany finishes on its steel cabinet. Draft beer-serving capacity of this model is determined by the size of coils installed in it.

Self-Contained Cooler

Another of the new line is model 1824-SC, a self-contained draft beer cooler and dispensing unit. It is 24 in. long, 18 in. wide, and 44½ in. high, and has two faucets. This unit's cooling capacity depends upon the size of coil used.

Companion model to No. 1824-SC is model 1819, a draft unit similar to the above model, except that it is 19 in. long, and is designed for remote installation of the compressor or for series connection to existing refrigeration equipment.

Four-Tap Cooler

Built for heavy-duty service is a special four-tap cooler which is intended for use with a remotely installed compressor. Models similar in appearance to this unit are being built in any dimensions and with any number of draft arms for purchasers.

The Schaefer company is also building barrel coolers. One model has storage space for two half-barrels, another for two full barrels. These models are finished in green Duco, and have brass plated hinges and door latches. Interior base of these coolers has heavy metal racks.

These units are refrigerated by a fin coil connected in series with the compressor used for cooling the beer-dispensing equipment in the establishment.

Frigidaire Refrigerates Fur-Storage Vault

FT. WAYNE, Ind.—Well, Inc., at 324 E. Columbia here, has recently purchased a model FW-6200 3-hp. Frigidaire compressor to refrigerate a newly constructed fur-storage vault.

The vault, which measures 31x19x8 ft. is insulated with 6 in. of rock cork, and finished, both inside and out, with concrete plaster.

Very low temperatures are maintained in the vault to shock the larvae, and kill them, as this method has been demonstrated as the one effective way to exterminate them.

During the winter season the vault will be used to store hides, according to Hubert Lohser, manager.

The compressor operates with freon, and steel coils are used in the vault. Temperatures are thermostatically controlled. The installation was supervised by L. E. Paul, commercial sales engineer of the C. E. Cromwell Co., local Frigidaire distributor.

MILLER TO DIRECT AIR-CONDITIONING PROMOTION

MILWAUKEE—C. O. Miller has been named director of sales and advertising for the Pfugardt Co., local distributor of General Electric oil furnaces and air-conditioning equipment, according to Allen G. Pfugardt, head of the firm.

Mr. Miller was formerly with the Hoover Co. and the Eureka Vacuum Cleaner Co., and has been in the electric appliance industry for the past 20 years.

LOVELOCK ORGANIZES SUPPLY COMPANY

SYDNEY, Australia—F. C. Lovelock, Inc., has been organized in this city by F. C. Lovelock as a limited liability company with a capital of 10,000 pounds. The new company will operate as manufacturers' representative for refrigeration supplies.

Formerly connected with George Brown & Co., Ltd., also of Sydney, Mr. Lovelock is now general manager of the organization which bears his name.

BRISTOL MOVES NEW YORK CITY OFFICES

NEW YORK CITY—New York offices of the Bristol Co., manufacturer of indicating, recording, and controlling instruments, have been moved to the Daily News building, 220 East Forty-Second St., according to C. W. Williamson, New York district manager. The company's factory is in Waterbury, Conn.

Treasure Chest



For cooling bottled beer, Ilg Electric Ventilating Co. announces its "treasure chest." It cools 3 cases of beer and makes 18 ice cubes. Exterior finish is walnut.

ANHEUSER-BUSCH DESIGNS COPELAND-COOLED BARS

ST. LOUIS—The refrigeration division of Anheuser-Busch, Inc., has designed three beer-cooling cabinets for dispensing outlets.

Two of the models may be used as bars, while the other is a service bar which can also be used as part of a bar assembly.

The two complete bars are self-contained, using Copeland compressors. One model will accommodate two half-barrels, the other three half-barrels. These models employ a ¼- and ½-hp. compressor, respectively.

The service bar accommodates two half-barrels, and uses a ¼-hp. compressor.

The beer is cooled for the draft arm by means of a sweet-water bath, refrigerated by a direct-expansion coil. Temperature control is thermostatic.

Bottle-storage compartments can be added to the bar where desired. These bottle compartments have a capacity range of from 7 cases to 22 cases.

INDIANAPOLIS COMPANY ANNOUNCES BEER COOLERS

INDIANAPOLIS—The M & S Beverage Cooler Co. of this city has recently introduced a new self-contained, portable bottled beer cooler, according to Roland Stewart, president of the firm.

The new M & S cooler is available in several different sizes and may be had with either the bottle immersion or dry storage types of cooling.

The refrigerating unit enclosure occupies half of the lower part of the frame, while the other half may be used as a "hold" for empty bottles.

SWEET WATER BATH USED IN NEW COOLER OF DAYTON PUMP CO.

DAYTON—A new portable electric bottle beer cooler using the sweet water bath method of cooling is being made by the Dayton Pump & Mfg. Co. here. The cooler has a storage capacity of 70 12-oz. bottles, and a cooling capacity (40° F.) of one-half to one case per hour. Doors of the cabinet are at the top.

The condensing unit is manufactured by the Dayton company, and is of the reciprocating type, operated by a 1/6-hp. repulsion-induction motor. Temperature control is a bulb type thermostat giving automatic overload protection.

Cooling unit is of the direct-expansion type with an automatic valve control. Top, door frame, and doors of the cooler are made of 20-gauge steel, the bottom section—which houses the compressor—being made from louvred steel. Four sides and bottom of the cooler are insulated with Insulite.

Overall dimensions of the cooler are: height, 37½ in.; width, 22 in.; length, 31 in. The cabinet section of the unit is white. Total shipping weight is 220 lbs. The cooler is covered by a one-year factory guarantee against defective parts and workmanship.

VICTOR INTRODUCES LINE OF DRAFT BEER COOLERS

HAGERSTOWN, Md.—Victor Products Corp. has announced a line of dispensing and cooling cabinets for draft beer, in which a sweet-water bath or instantaneous cooler can be employed.

The cabinets are offered in a number of designs, a two-tap model for draft beer only; a combination draft and bottle cooling and dispensing cabinet; a two-tap model with bottle storage, space for two half-barrels, and drain board with shelves for glasses; and a four-tap model.

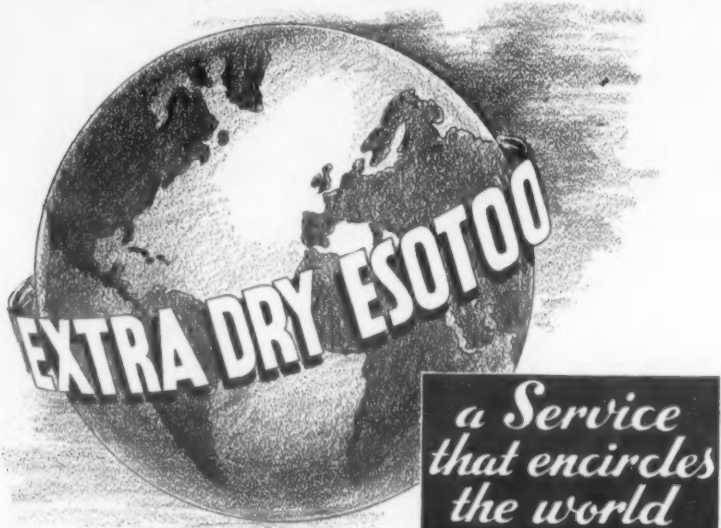
In models which have bottle-storage compartment, bottle cooling is of the "submersion" type.

Liquid Carbonic Orders Total \$1,500,000

NEW YORK CITY—Liquid Carbonic Corp. up to last week had booked orders for brewing equipment totaling \$1,500,000, according to W. K. McIntosh, chairman.

VILTER ADDS 450 TO FACTORY STAFF

MILWAUKEE—Due to an influx of orders for refrigeration equipment to supply the brewing trade, Vilter Mfg. Co. of this city has increased its employment figure to 450.



36 Convenient ESOTOO Service Stations — USE YOUR NEAREST ONE —

West Norfolk, Va.—Virginia Smelting Co.
Atlanta, Ga.—Security Warehouse Co.
Buffalo, N. Y.—Rolls Chemical Co.
Boston, Mass.—Virginia Smelting Co.
Charlotte, N. C.—D. & J. Supply Co.
Chicago, Ill.—Innis, Speiden Co.
Cincinnati, Ohio—Cincinnati Term. & Warehouse, Inc.
Cleveland, Ohio—Innis, Speiden Co.
Denver, Colo.—Denver Fire Clay Co.
Detroit, Mich.—W. C. Dyer.
El Paso, Tex.—Denver Fire Clay Co.
Honolulu, Hawaii—Welded Supply Co.
Houston, Tex.—Universal Term. & Warehouse Co.
Kansas City, Mo.—G. S. Robins & Co.
Jacksonville, Fla.—Mead Warehouse & Dist. Co.
London, Eng.—Henswell & Stein, Ltd.
Los Angeles, Cal.—The Bram Corp.
Miami, Fla.—Rickert Warehouse & Storage Co.
Montreal, Que.—Bruce, Ross, Ltd.

New Orleans, La.—Bartlett Chemicals, Inc.
New York City—Virginia Smelting Co.
Philadelphia, Pa.—Merchants Warehouse Co.
Pittsburgh, Pa.—Kirby Transfer & Storage Co., Inc.
Portland, Ore.—Carl F. Miller Co.
Rochester, N. Y.—Rolls Chemical Co.
St. Louis, Mo.—G. S. Robins & Co.
St. Paul, Minn.—Midwest Chemical Co.
San Francisco, Cal.—Bram, Knecht-Heimann Co.
Salt Lake City, Utah—Denver Fire Clay Co.
Seattle, Wash.—Carl F. Miller Co.
Sydney, Australia—Dangar, Gadye & Co., Ltd.
Syracuse, N. Y.—Great Northern Warehouse Co.
Tampa, Fla.—Lee Terminal & Warehouse Corp.
Toronto, Can.—Bruce, Ross, Ltd.
Vancouver, B. C.—Shanahan Chemicals, Ltd.
Winnipeg, Manitoba—Beaver Soap & Chemicals, Ltd.

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ENGINEERING

WASHINGTON ALTERS CODE IN REGARD TO ROOM-COOLING JOBS

WASHINGTON, D. C.—Sections 505 and 615 of the mechanical refrigeration code for the District of Columbia are not applicable to air-conditioning installations, the board of commissioners ruled on May 5 by adopting provisions which are published in full below:

(a) That the evaporator and immediate connections be made of approved corrosion resisting materials;

(b) That the evaporators be tested to at least one and one-half times the minimum pressures specified in paragraph 501;

(c) The ratio of the total amount of refrigerant in any one system to the cubical contents of the space refrigerated shall be in accordance with the following:

Refrigerant	Lbs. of Refrigerant per 1,000 cu. ft.	Unvented Flames
F-12	60	No
F-12	6	Yes
Carbon Dioxide	6	Yes or No
Methyl Chloride	2	Yes or No

(c) 1. If all the refrigerant containing parts are confined to a machinery room, and none of the air ducts leading therefrom are provided with control dampers or other means of altering air flow, the cubical contents of the entire refrigerated space shall be used to determine the application of the above rating.

(c) 2. If air ducts are provided with control dampers or other means of altering air flow at will, and/or if either unit or remote evaporators are used, then the cubical contents of the smallest room or space into which such an air duct opens, or in which an evaporator is placed, shall be used to determine the application of the above rating.

(d) No substance shall be added to the refrigerant in proportions sufficient to make concentration of refrigerant vapors, specified in part "c" above, a panic hazard in theaters and/or places of public assembly, or a health hazard in other locations. (For other limitations see Sec. 11-b, Gas-fitting Regulations.)

(e) It shall be in the discretion of the Inspector of Plumbing to determine whether any or all of the provisions of Sections 506 and 512 shall apply.

By order of the Board of Commissioners, D. C.

DANIEL GARGAS,
Secretary to the Board.

TAYLOR MARKETS HUMIDITY AND TEMPERATURE GUIDE

ROCHESTER, N. Y.—Taylor Instrument Co. here is introducing the Humidiguide, a device for registering the humidity and temperature within a room. The instrument retails for \$5. It is finished in satin black with chromium trim, and gives the humidity reading on a dial near the top of the case, while the temperature is registered on a small thermometer below the dial.

Lewis Designs Low Voltage Humidity Control

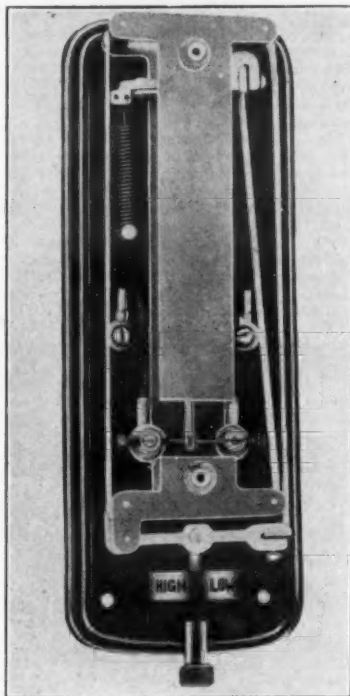
MINNEAPOLIS—A new humidity control of the open-contact type for operation on low voltage circuits has been introduced by Lewis Air Conditioners, Inc., here.

The new Humitrol is designed for use with a transformer in low voltage air-conditioning control systems up to 25 volts. In such systems, direct application can be made to any equipment drawing 25 watts or less, according to C. E. Lewis, president of the manufacturing company.

The device may be used to control operation of equipment drawing more than 25 watts by use of a transformer-relay combination, and may be set to control humidity at any desired percentage up to 100 per cent. Operating range may be adjusted to a 1 per cent differential, the president states.

This Humitrol is provided with iridio-platinum contacts, and is equipped with double contacts and red, white, and blue terminal posts for use with either two-wire or three-wire systems. On a two-wire system, it will

Humitrol



Interior of new Lewis open contact humidity control.

control either humidification or dehumidification, or will control both operations on a three-wire instrument.

The instrument is 2 1/2 in. wide, 7 1/2 in. long, and 1 1/2 in. deep, and has a cover and base of dark walnut Bakelite. Its list price is \$18.

Lewis company will soon be in production of a new snap action open contact Humitrol for use in railway car installations and in trucks, where vibration must be dealt with, according to Mr. Lewis. This control will also list for \$18. The same price has been placed on the company's mercury tube Humitrol.

AMERICAN HARD RUBBER BUILDS NEW CASE DOOR

NEW YORK CITY—Center-rail groove-type hard rubber door frames with an improved roller bearing feature are now being supplied by the American Hard Rubber Co. for refrigerated display case construction.

The advantage of roller bearings in door frame construction is claimed to be in the greatly reduced frictional resistance of doors which must slide on rails and grooves.

Tests made at the laboratories of the American Hard Rubber Co. are said to show that the pull required to slide doors equipped with roller bearings as compared with doors without roller bearings indicates a saving of 68 per cent of effort when doors are mounted vertically, 38 per cent when doors are inclined at an angle of 20° from vertical, and 37 per cent when doors are inclined at an angle of 45°.

Roller bearings are inset in recesses molded in the lower groove of the door. They are made of brass and require only occasional lubrication. The application of roller bearings does not affect insulation of the cabinet as the raised ribs of the slide rail form an effectual side contact with the door groove.

Nine Carloads in a Day



Busy scene on the loading platform of Universal Cooler Corp. one day last week when carload shipments were made to nine large cities.

G. E. DEVELOPS NEW PROTECTIVE SWITCH

SCHENECTADY, N. Y.—A small, hand-operated starting switch for providing protection against stalled-rotor current and injurious overload conditions has been developed by the General Electric Co. for use with single-phase a.c. or d.c. fractional horsepower motors.

All molded parts are made from Textolite and the large contact tips are pure silver. The metal parts will resist corrosion. The switch has a snap-action mechanism which is trip-free on overload. The a.c. switch is available in single- and double-pole forms, says the manufacturer.

To facilitate installation, switch has been made available in several forms: open-type for application where the purchaser wishes to provide his own enclosure; enclosed-type switches for general purpose applications; and switches for class 1, group D hazardous locations.

The open-type switch is the basic form. It may be supplied with an "on"- "off" knob for operation by hand, or with a knob for spline-shaft operation.

The latter construction is required where switches are to be mounted in explosion-proof enclosures for class 1, group D hazardous locations. Either type of construction is adaptable for mounting in a purchaser's enclosure.

The enclosed-type switch for general purpose applications consists of one of the open-type forms with a hand-operated "on"- "off" knob, mounted in a black-enameled, drawn-shell steel case which has an engraved flat aluminum cover.

This form is designed for applications where wall mounting is desirable. A knockout for conduit is provided in both the top and bottom of the case, and two conduit fittings are furnished with each switch. This switch may also be had in enclosures suitable for flush mounting.

The switch for class 1, group D hazardous locations consists of one of the open-type switch for spline-shaft operation mounted in a heavy cast-iron case with wide, machined flanges.

The cover has a strong operating handle which engages the switch knob. This switch is adaptable for building directly into fractional horsepower motors where it is necessary that both motor and control be suitable for class 1, group D hazardous locations.

KASON USES ADJUSTABLE STRIKE ON NEW LATCHES

BROOKLYN—Kason Hardware Corp. is introducing to manufacturers of commercial refrigeration cases and cabinets a new line of forged brass door latches featuring a micrometer strike with which offset adjustments may be made to a thousandth of an inch.

By turning a screw in the micrometer strike device, the strike may be raised or lowered in its socket and brought into proper alignment with the lock. In the smallest of the four new models, adjustments may be made to any degree between 5/16 in. and 1/2 in. In the largest, the range is from 1/2 in. to 1 1/4 in., the manufacturer states.

The latches are available in finishes of polished brass, nickel, or chromium. All models are guaranteed against defective or broken parts for three years.

BAYLEY BLOWER MOVES

MILWAUKEE—Bayley Blower Co., air-conditioning manufacturer which recently took over the business of Bayley Blower Mfg. Co., has moved to 1817 South 64th St. here.

5 MANUFACTURERS ADOPT MACHINES TO FORM BALSAM WOOL

CHICAGO—Five manufacturers are now using Balsam Wool insulation in their refrigerator cabinets, and are making the insulation slabs in their own plants with special equipment developed by the Wood Conversion Co., according to D. H. Corlette, sales manager of the company.

Bales of pulp are shipped to these manufacturers by the Wood Conversion Co., and the Balsam Wool slabs are turned out in the proper sizes and quantities by the machines leased to the refrigeration manufacturers by the Chicago insulation concern.

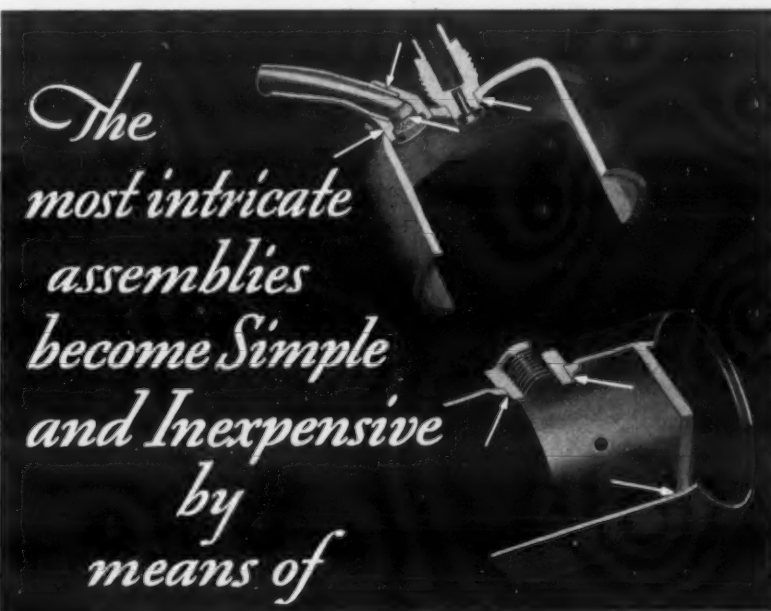
The machines may be adjusted to a new size in approximately three minutes, says Mr. Corlette, enabling the refrigeration manufacturer to regulate insulation production as it is required by production along other lines in the plant.

Several bales of pulp are loaded in one end of each machine, the pulp being converted into formed slabs of the proper size as it passes through the device. As each mat of insulation is discharged from the machine, it passes into a moisture-proof container, ends of which are sealed to make the slab ready for use.

Refrigeration manufacturers leasing this equipment from the Wood Conversion Co. are granted a license under the latter's patents.

ELECTRICAL FIRM FORMED

WATERBURY, Conn.—To manufacture electrical equipment and devices, A. G. & J. G. Baril have organized a company in this city known as Domestic Appliance Corp.



COPPER-HYDROGEN Electric Welding

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PATENTS

ISSUED MAY 16, 1933

1,908,901. ABSORPTION TYPE REFRIGERATING APPARATUS. Donald B. Knight, Brooklyn, N. Y., assignor to Electrolux Servel Corp., New York, N. Y., a Corporation of Delaware. Filed May 28, 1932. Serial No. 614,185. 6 Claims. (Cl. 62-119.5.)

1. A refrigerating system of the absorption type including a generator, condenser,

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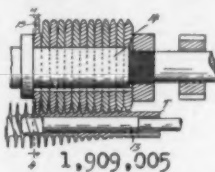
evaporator and a plurality of absorbers, said generator comprising a plurality of weak liquor chambers and a strong liquor chamber, a conduit from each weak liquor chamber to a corresponding absorber, a conduit from each absorber to said strong liquor chamber, and thermosiphon conduits from said strong liquor chamber to each of said weak liquor chambers.

1,908,968. REFRIGERATING APPARATUS. Howard L. Forman, Kitchawan, N. Y., Filed Aug. 25, 1932. Serial No. 630,349. 13 Claims. (Cl. 62-104.)

1. A refrigerator casing having within it a cold bath beneath a chill coil above, an intermediate shelf for receiving the articles to be preserved, a spray pipe located to discharge spray thereupon, means for discharging a cooling liquid at intervals through said spray pipe, and refrigerating means for cooling said liquid at a temperature approximating the freezing point, but insufficiently low to freeze the articles to be preserved, and for cooling said chill coil to maintain the enclosed air within the casing at a refrigerating temperature.

1,909,005. METHOD OF MAKING CORRUGATED WALL TUBING. Charles T. Paugh, Detroit, Mich., assignor to Wolverine Tube Co., Detroit, Mich., a Corporation of Michigan. Filed June 16, 1930. Serial No. 461,530. (Cl. 29-157.3.)

1. The method of producing finned tubing having corrugated walls which consists in generating integral fins from the



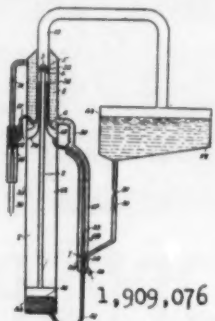
1,909,005

material of the wall of the tube while the tube is supported on a mandrel and subsequently rolling radially inwardly extending corrugations in the wall of the tube between the fins beyond the end of the mandrel.

1,909,030. ICE MAKING TRAY. Charles G. Wheeland, Los Angeles, Calif., Filed April 19, 1930. Serial No. 445,602. 8 Claims. (Cl. 62-108.5.)

1. In combination with a refrigerating device, an ice-making tray, comprising: an open bottom frame; a plurality of open-topped cells having individual walls; and webs interjoining the tops of the cells and the top edges of the frame to form a liquid seal across the frame, and frame having a drain hole below said seal.

1,909,076. REFRIGERATING MACHINE. Peter Schlumbohm, Berlin, Germany, assignor to The American Thermos Bottle



1,909,076

Co., Norwich, Conn., a Corporation of Ohio. Filed Oct. 20, 1928. Serial No. 313,746, and in Germany Oct. 21, 1927. 5 Claims. (Cl. 62-115.)

1. A refrigerating system including a refrigerant pump using mercury vapor as a propellant fluid, an evaporator connected

to the suction of the pump, a condenser receiving the discharge from the pump, and an ejector actuated by the condenser water for removing uncondensable gases from the system.

1,909,164. VENTILATING APPARATUS. Claude A. Bulkeley, Buffalo, N. Y., assignor to Niagara Blower Co., Buffalo, N. Y., a Corporation of New York. Filed March 31, 1931. Serial No. 526,646. 11 Claims. (Cl. 257-8.)

1. In an apparatus for ventilating and conditioning the air in a room or the like, means for continuously withdrawing air from the room to be conditioned, an air conditioner, means for drawing an amount of fresh air through said air conditioner at all times proportional to said withdrawn room air, means for mixing said conditioned fresh air and said withdrawn room air and discharging said mixed air into said room and means responsive to the air conditions in said room for tempering a part of said withdrawn air.

1,909,227. APPARATUS FOR CONDITIONING AIR. Clinton F. Shadle, Watertown, N. Y., Continuation of applications Serial Nos. 440,809 and 440,810, filed April 11, 1930. This application filed April 11, 1931. Serial No. 529,456. 12 Claims. (Cl. 62-140.)

1. An apparatus for removing water from a mixture of water vapor and a gas, comprising a shell designed to minimize the changes of cross section and to provide gradual changes of cross section where such changes are necessary; inlet and discharge connections at opposite ends of said shell; a refrigerative cooler mounted in said shell comprising a plurality of substantially vertical spaced leaves of approximately stream line form extending in the general direction of flow through said shell; connections for conducting refrigerating fluid to and from said leaves; and a mechanical moisture separator interposed in the path of outflow from said shell.

1,909,261. REFRIGERATOR. Robert T. Frazier, Chattanooga, Tenn., assignor to Tennessee Furniture Corp., Chattanooga, Tenn., a Corporation of Tennessee. Filed Dec. 19, 1932. Serial No. 648,001. 7 Claims. (Cl. 62-72.)

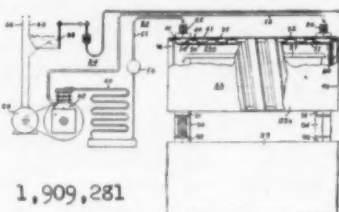
1. In a refrigerator, having an ice chamber in the upper portion and having a food compartment and having flues connecting the ice chamber and compartment; means for circulating air through the compartment and ice chamber and means for automatically varying the volume of circulating air in inverse proportion to the surface area of the ice.

1,909,265. SERVICE CABINET. Fred Gimbel, Chicago, Ill., Filed March 25, 1932. Serial No. 601,273. 11 Claims. (Cl. 62-75.)

1. In a service cabinet for cubed ice and cubed butter, an open top body part formed with an opening in its front, a partition in said body part forming front and rear compartments open at the tops thereof, the former for receiving a refrigerant and the latter for storing removable ice cubes, a casing open at each end, abutting at its rear the said partition and secured at its front to the wall of said opening, spaced, superposed, combined guiding and supporting elements secured to the inner faces of opposed walls of said casing, removable, butter tube supporting and serving trays slidably mounted with in said casing upon said elements, a door for closing the front of the casing, and a removable closure for the open top of the front compartment.

1,909,281. REFRIGERATING APPARATUS. Ewald J. Kimm, Dayton, Ohio, assignor to Frigidaire Corp., Dayton, Ohio, a Corporation of Delaware. Filed April 30, 1931. Serial No. 533,997. 6 Claims. (Cl. 62-126.)

1. A sheet metal evaporator for refrigerating apparatus comprising an elongated shell, a corrugated ribbon-like member



1,909,281

wound around said shell and having portions of the corrugations sealed to said shell to provide a closed tortuous passage around said corrugated ribbon-like member, said second shell being sealed to other portions of the corrugations of said ribbon-like member to provide a second closed tortuous passage around said second shell, said passages being in open communication at the ends thereof, and said shells being disposed horizontally to provide a freezing zone adapted to receive a receptacle to be cooled.

1,909,288. WATER COOLER. Oliver L. Link, St. Charles Mo., Filed Sept. 29, 1930. Serial No. 485,246. 8 Claims. (Cl. 225-40.)

1. A water cooler comprising a casing, a fitting secured to the bottom thereof, a discharge pipe connecting to said fitting, a water tank in the casing having a depending discharge tube projecting through said fitting and apertured to communicate with said pipe, and a cap removably secured on the end of said tube and seating against said fitting.

1,909,383. TEMPERATURE INDICATING ATTACHMENT FOR REFRIGERATOR CARS. John L. Townshend, Montreal, Quebec, Canada. Filed Dec. 2, 1930. Serial No. 499,542. 3 Claims. (Cl. 73-52.)

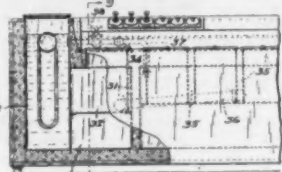
1. The combination with a refrigerator car equipped with a hinged floor rack of temperature indicating means comprising an indicator carried by one of the enclosing walls of the car and accessible for inspection from a point outside the car, a control bulb positioned between the floor rack and the floor proper and secured to said floor rack and capillary tubing operatively connecting said indicator and bulb, said tubing being coiled at a point between the indicator and the bulb to permit the bulb to be displaced with the floor without damaging the tubing.

1,909,577. REFRIGERATOR PAN. Wilfred Fourness, Oakland, Calif., assignor to Fourness Development Corp., Ltd., New York, N. Y., a Corporation of New York. Filed Oct. 20, 1930. Serial No. 489,908. 14 Claims. (Cl. 62-13.)

1. In combination with a motor vehicle, a body, a refrigerating system within the body normally operating to maintain a refrigerating temperature therein, said refrigerating system comprising a plurality of spaced coils positioned adjacent the inner walls of the body, and means acting to continue the maintenance of the refrigerating temperature while said refrigerating means is inactive, said means comprising a plurality of containers, containing a refrigerant, which are positioned between the coils.

1,909,818. REFRIGERATED CABINET. Adolph E. Eckert, Cleveland, Ohio, assignor to The Russ Mfg. Co., Cleveland, Ohio, a Corporation of Ohio. Filed Sept. 14, 1928. Serial No. 306,884. 3 Claims. (Cl. 62-101.)

4. A soda cabinet comprising a brine tank having portions of different heights, a food storage compartment opening to



1,909,818

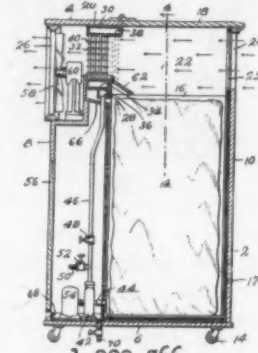
the top of the portion of the tank of lesser height, and an evaporator in the portion of the tank of greater height having the level of liquid refrigerant therein well above the top of the storage compartment.

1,909,823. METHOD AND APPARATUS FOR CONDITIONING AIR. Henry O. Forrest, Tennece, and Lee Van Horn, Elizabeth, N. J., Filed Nov. 21, 1931. Serial No. 576,488. 9 Claims. (Cl. 62-170.)

1. The method of conditioning air by the use of a hygroscopic liquid, which comprises introducing air to be conditioned into a dehumidifying zone, introducing hygroscopic liquid into said dehumidifying zone in contact with said air to effect dehumidification thereof, separately withdrawing dehumidified air and diluted hygroscopic liquid from said dehumidifying zone, introducing water into an evaporating zone contacting water vapor from said evaporating zone in an absorbing zone with hygroscopic liquid, with drawing diluted hygroscopic liquid from said absorbing zone, withdrawing refrigerated water from said evaporating zone and utilizing it to cool said withdrawn dehumidified air, concentrating said diluted hygroscopic liquid, and recycling said concentrated hygroscopic liquid through said dehumidifying and absorbing zones.

1,909,866. PORTABLE COOLING APPARATUS. Glen O'Brien, Troy, Kan.; C. M. O'Brien, executrix of said Glen O'Brien, deceased. Filed Feb. 5, 1932. Serial No. 581,104. 3 Claims. (Cl. 62-133.)

1. An apparatus of the character described comprising a cabinet having an air passage extending therethrough, means



1,909,866

for circulating air through said passage, a radiator arranged within said passage and having a chamber with a multiplicity of perforations adapted to discharge a cooling liquid upon the air, means within the cabinet for cooling said liquid, and means for circulating the liquid from said cooling means through said radiator.

1,909,875. REFRIGERATOR. Ivar Lundgaard, Worcester, Mass., assignor to Devon Mfg. Co., Boston, Mass., a Corporation of Massachusetts. Filed Aug. 31, 1929. Serial No. 389,641. 21 Claims. (Cl. 62-116.)

1. A refrigerator comprising a food compartment, a refrigerating machine having a cold head, a liquid-containing cooler disposed in juxtaposition to said head, freezing chambers associated with said cooler, a fluid circulating duct having a portion juxtaposed to said cooler and a portion in juxtaposition to the food compartment, and a fluid impeller to circulate fluid through said duct whereby said fluid may receive heat from the food compartment without passing through the same.

1,909,893. ELECTRICALLY OPERATED EXPANSION VALVE AND CONTROL SYSTEM. Thomas I. Potter, Portland, Ore. Filed Jan. 26, 1931. Serial No. 511,269. 4 Claims. (Cl. 62-4.)

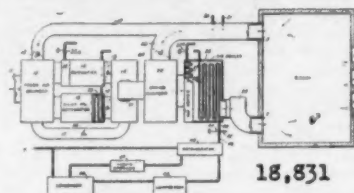
1. A refrigerating system having in combination a heat pumping unit and a plurality of evaporator units, an electrically operated expansion valve at each of said evaporator units, a frost line temperature switch at each of said evaporator units, and a dual box temperature switch asso-

ciated with each of said evaporator units, one side of said dual switch passing in series through said frost line switch to its respective expansion valve and the other side of said dual switch controlling the operation of the pumping unit.

REISSUE

18,831. METHOD OF COOLING AND DRYING AIR. Walter L. Fleisher, New York City, N. Y., assignor to The Cooling & Air Conditioning Corp., New York, N. Y., a Corporation of New York. Original No. 1,819,643, dated Aug. 18, 1931, Serial No. 236,650, filed Nov. 30, 1927. Application for reissue filed Sept. 29, 1932. Serial No. 635,362. 16 Claims. (Cl. 257-8.)

9. The method of conditioning air supplied to an enclosure which comprises dehydrating outside air, adding non-dehy-



18,831

drated outside air, withdrawing air from the enclosure, mixing the withdrawn air, the dehydrated air, and the non-dehydrated outside air, and discharging the mixture into the enclosure.

Nema Sales by States For April, 1933

Reported by Refrigeration Division of National Electrical Manufacturers Association. Member companies: Copeland, Crossley, Frigidaire, General Electric, Gibson, Grigsby-Granow, Kelvinator, Norge, Servel, Trupar, Universal Cooler, and Westinghouse.

STATES and Territories	Quantity of HOUSEHOLD Low Sides
Connecticut	1,438
Maine	399
Massachusetts	4,862
New Hampshire	325
Rhode Island	778
Vermont	211
New England Total	8,013
Delaware	281
Maryland & D. C.	4,037
New Jersey	4,306
New York (State)	15,847
Pennsylvania	9,471
Eastern Total	33,742
Kentucky	1,539
Ohio	6,575
West Virginia	1,544
East Central Total	9,658
Alabama	1,371
Florida	743
Georgia	1,481
North Carolina	1,879
South Carolina	796
Tennessee	1,137
Virginia	1,957
Southeastern Total	9,363
Illinois	6,885
Indiana	2,044
Michigan	2,407
Wisconsin	1,403
Great Lakes Total	12,739
Minnesota	1,562
North Dakota	161
South Dakota	199
North Central Total	1,912
Iowa	1,369
Kansas	1,594
Missouri	4,984
Nebraska	877
Middle West Total	8,824
Arizona	383
California	5,770
Nevada	97
Pacific Coast Total	6,550
Idaho	175
Montana	417
Oregon	919
Utah	470
Washington	803
Northwestern Total	2,784
Colorado	1,090
New Mexico	194
Wyoming	146
Rocky Mountain Total	1,430
Arkansas	613
Louisiana	618
Mississippi	302
Oklahoma	1,903
Texas	4,153
Southwestern Total	7,613
Total United States	102,334
Total Canada	847
Other Foreign (including U. S. Possessions)	8,859
Total for World	107,031

Parker Rust-Proof Co. Sales Increase

DETROIT—Parker Rust-Proof Co.'s sales soared to the highest point of the year during April when business showed an 80 per cent gain over that of March, according to W. M. Cornelius, president.

A total of 320,000 pounds of rust-proofing compounds were sold during April, as compared with 178,000 pounds in March, Mr. Cornelius says. He credits the jump in sales largely to sales increases in the electric refrigeration and automotive fields.

ANSUL SULPHUR DIOXIDE
The Ideal Refrigerant
made by the **ANSUL CHEMICAL COMPANY**
MARINETTE, WIS.

Model "X" —a Newly Added Coil to this Great Line

Now Over 40,000 Larkin Coils in Daily Use

LARKIN facilities are such that as soon as sufficient demand is evidenced for a special coil it steps out of the Special Order Group and becomes a Standard item stocked, ready for convenient, quick delivery from Atlanta, Brooklyn and Chicago.

Model X, recently added, comes in 10 lengths 32 to 147". Used at top of Display Cases and special applications or when more than one Coil is essential.

STANDARD FACTORY EQUIPMENT WITH

COPELAND; SERVEL; WILLIAMS ICE-O-MATIC; MAYFLOWER; UNIVERSAL; KULAIR; ZEROZONE; M & E; MODERN; STARR; MOHAWK; APEX; DICELER; LIBERTY; H. M. Robins Co., Export and Others.

LARKIN Refrigerating Corporation

Originator and Manufacturers

ATLANTA, GA., U.S.A.

U.S. PATENT No. 1,774,238

WAREHOUSES
Brooklyn - Chicago

LARKIN COILS

A NEW FIN COIL by PEERLESS

Wedge-locked and edge-locked aluminum fins on tinned copper tubing for methyl chloride, sulphur dioxide, F-12, etc.—aluminum tubing for ammonia. Absolute Metal to Metal Contact. A Superior Coil in which Soldered Return Bends have been eliminated. Priced to meet 1933 conditions. Write—Wire for Catalog.

PEERLESS ICE MACHINE CO., 515 W. 35th St., Chicago, Ill.

"REMPE" SUPER COLD FIN COILS

for
Methyl Chloride,
Ammonia, F-12 and
Sulphur Dioxide

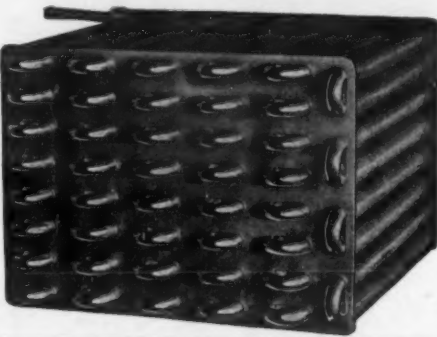
REMPE "FIN COIL" CO.
3000 W. CARROLL AVE.
CHICAGO KEDZIE 0483 ILL.

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Highest Efficiency
With Smallest Number
of Joints

Rome-Turney Radiator Co.
Rome, N. Y.

Makers of Rome Condensers and
Helical Finned Tubing



We carry a complete stock of
EVERYTHING IN REFRIGERATION
including

FEDDERS COMMERCIAL COILS
Thermostatic Expansion Valves, Tubing,
Manifolds, Fittings, Controls, etc.

Save money, time and work—Buy everything from
one source

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1135 CALLOWHILL ST. PHILADELPHIA 116 BROAD ST. NEW YORK STATLER BLDG. BOSTON



SELF-LIFTING PIANO TRUCK CO.
FINDLAY, OHIO
Manufacturers of Trucks Since 1901

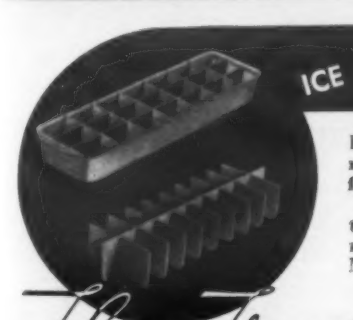
You'll Junk Your Old Trucks

when you see Heavy Duty
X-70 REFRIGERATOR TRUCKS
Fit all cabinets with or without legs, or in the crate, eliminating one man, and preventing damage to cabinet, floor or walls. Sturdy all-steel frame. One truck with top casters and handles for tilting and rolling into delivery truck and on stairs. Only pads touch cabinet. Complete set \$34.50. Ball bearing swivel casters on one end \$5 extra. Also manufacturing Balance Trucks.

Dayton V-Belts

For all makes and types of refrigerators. There is a stock near you. Ask for price list and name of your nearest distributor.

THE DAYTON RUBBER MFG. CO.
Dayton, Ohio
The World's Largest Manufacturer of V-Belts



ICE CUBES THE MODERN WAY

Flexible rubber trays for all types and makes of mechanical refrigerators. Also flexible rubber grids for all metal trays. See your distributor—the maker of the refrigerator you sell—or write for money-making facts to The Inland Manufacturing Company, Dayton, Ohio.

Flexo Trays • Flexo Grids

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Enter my order for ☐ New ☐ Renewal Subscription to Electric Refrigeration News and send free copy of your 120-page Directory Supplement.

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Name

Address

City State

QUESTIONS

Interior Electric Lights
No. 1218 (Dealer, Florida)—"We would appreciate you giving us the list of manufacturers of automatic lighting equipment for the interior of refrigerators."

Answer—Arrow-Hart & Hegeman Electric Co., Hartford, Conn., and Cutler-Hammer, Inc., Milwaukee, Wis.

Frozen Custard Machines
No. 1219 (Contractor, New York)—"We would like to know the addresses of a few companies that manufacture the machines to make frozen custards."

Answer—Kohr Custard Machine Co., York, Pa., and Metal Door & Trim Co., LaPorte, Ind.

Premier Coil Address
No. 1220—"Will you please give me the address of Premier Coil Cleaner Co.?"

Answer—208 S. LaSalle St., Chicago, Ill.

Federal Refrigerator
No. 1221 (Attorney, Chicago)—"I have a client who has made inquiry about the Federal refrigerator which formerly I understand was made in Chicago. I understand they have been off of the market for two years or more, but I am anxious to ascertain what became of them."

Sunbeam Units
No. 1222 (Service company, New York)—"Can you furnish us with information as to what refrigerator companies use Sunbeam units?"

Answer—Gurney Refrigerator Co., Fond du Lac, Wis.; Sears, Roebuck & Co., Chicago, Ill.; and Tennessee Furniture Co., Chattanooga, Tenn.

Statistics
No. 1223—"Will you kindly furnish us the record on national shipments per month on all makes of electric refrigerators since Jan. 1, 1933?"

Answer—The manufacturers of electric refrigerators have not yet reached the point where any appreciable number are willing to release monthly figures on shipments.

The 12 manufacturers represented in the refrigeration division of National Electrical Manufacturers Association report sales and stocks each month to the association headquarters and the totals for the entire group are officially released to the trade through the columns of ELECTRIC REFRIGERATION NEWS.

No. 1224 (Distributor, Pennsylvania)—"In your July 27, 1932, issue on page 2 you published figures on comparative sales by Nema companies for the first six months of 1930, 1931, and 1932. Would you kindly advise us whether you have published the same information for the second six months of those three years, and if so, in what issue of your publication it appeared?"

Answer—All available statistics regarding sales and stock of electric refrigerators as collected by the refrigeration division of National Electrical Manufacturers Association (Nema) up to October, 1932, are published in the revised edition of the 1932 REFRIGERATION DIRECTORY and MARKET DATA BOOK. Statistics not included in the DIRECTORY will be found in the following issues of ELECTRIC REFRIGERATION NEWS: For October, 1932, see page 12, Nov. 30 issue; for November, 1932, see page 14, Jan. 11 issue; for December, 1932, see page 22, Feb. 8 issue; for January, 1933, see page 10, March 22 issue; for February, 1933, see page 18, April 12 issue; for March, 1933, see page 20, May 3 issue; for April, 1933, see page 16, May 24 issue.

Kerosene-Operated Refrigerators
No. 1225 (Dealer, Nebraska)—"What company makes the Trukold kerosene-operated refrigerator for Montgomery Ward Co? Can it be bought under a different name?"

Answer—Manufactured for Montgomery Ward Co. by Gibson Electric Refrigerator Corp., Greenville, Mich. This company also makes the Gibson Kero-Unit.

Service Parts
No. 1226 (Service man, Cuba)—"I would appreciate it if you would give the names of firms from whom I could purchase all kinds of service parts for different automatic refrigeration equipment and also name and address of the firms from whom shop equipment may be obtained."

Answer—Service parts—Chicago Refrigeration Service Co., 360 E. Grand Ave., Chicago, Ill.; Home Appliance Service Co., Inc., 714 W. Market St., Greensboro, N. C.; Iceless Refrigeration Accessories Co., 2401 Chestnut St., Philadelphia, Pa.; Melchior Armstrong, Dessau Co., 116 Broad St., New York, N. Y.; Refrigeration Service, Inc., 3109 Beverly Blvd., Los Angeles, Calif.; and Riley Engineering Corp., 8642 Beaubien St., Detroit, Mich.

Shop equipment—Kerotest Mfg. Co., 2525 Liberty Ave., Pittsburgh, Pa.; and Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill.

Catalogs

Mueller Valves and Fittings
Mueller Brass Co. has added Catalog R-2 to its literature on refrigeration valves and fittings. The full-flow principal on which its products are based is stressed throughout.

In addition to fittings for domestic refrigeration, extra-heavy valves for large commercial installation service and air-conditioning work are described. Last section of the booklet illustrates and tells of Mueller Stream-line fittings.

Republic Welding Processes
Result of laboratory research and experiments in commercial welding shops is "The Welding of Enduro Stainless Alloys," a new profusely illustrated booklet now being distributed by the Central Alloy Division of Republic Steel Corp.

Various welding methods applying to Enduro stainless alloys are outlined, including electric arc welding, gas welding, spot and projection welding, seam welding, and flash welding.

Independent Air Filters
Double-duty, Kompak, Zig-Zag, and Fibre Pak air filters, as well as Kompak dust arresters, are described in a new bulletin issued by Independent Air Filter Co., Chicago. "Keep the Air Clean" is the name of the booklet, which gives full details, with installation charts, of the various filters, their component parts, and contributory equipment.

York Air Conditioners
To selling organizations throughout the country is going York Ice Machinery Co.'s new brochure entitled, "Money for You in Air Conditioning." Four illustrated pages show the uses of air conditioning today, and are followed by descriptions of York products, photographs of York factories, and a summary of company merchandising plans.

Steel & Tubes Tubing
A complete "Handbook of Electric Weld Tubing" has been issued by Steel & Tubes, Inc., of Cleveland, unit of Republic Steel Corp. The 68 pages of the book cover such subjects as manufacture of electric weld tubing, weld characteristics, selection of material, physical properties of welded steel tubing, description of trade terms for various types and finishes of tubing, mill practice and trade customs, information necessary when ordering steel tubing, method of checking tolerances, information on bending, tapering by swaging, definitions of terms used in heat treating operations, etc.

Many illustrative charts and tables are included, as well as descriptions of Steel & Tubes, Inc., products.

Heald Grinding & Finishing Machines
Surface grinding machines, Bore-Matic precision finishing machines, and two internal grinding machines, are discussed in five booklets by Heald Machine Co., Worcester, Mass. The bulletins have descriptions, illustrations of the machinery, specifications, and typical set-ups and operations.

Bishop & Babcock Beer Bottlers
Eureka beer products are delineated in Catalog B-14, publication of Bishop & Babcock Sales Co., Cleveland. The catalog gives descriptions and pictures of automatic and hand-operated beer filling machines; automatic low-pressure bottlers; electric, hydraulic, and hand-operated beer pumps; bottlers' carbonators; electric combinations; bar faucets; bar drainers; cocks and fittings; workboards and regulators; coil boxes; and cooler outfits. Complete list of parts for the company's products, with prices, takes up the last pages.

Ice Master Ice Cube Crushers
Refrigeration Service, Inc., Los Angeles, is distributing a small leaflet descriptive of Ice Master ice cube crushers. Picture of the device appears on the front page, while other pages discuss use of the crusher in cracking ice cubes and nuts.

M.S.A. Ammonia Masks
Of interest to hotels and restaurants, meat packers' plants, ice and refrigeration plants, and other industries using ammonia refrigeration is a new bulletin describing ammonia masks issued by Mine Safety Appliances Co. of Pittsburgh. Outstanding construction features and instructions for putting on the mask are explained.

CLASSIFIED

PAYMENT in advance is required for advertising in this column. RATES: 50 words or less, 1 time, \$2.00, extra words 4 cents each. Three times, \$5.00, extra words 10 cents each.

POSITIONS WANTED

EXPERIMENTAL ENGINEER with 9 years' practical experience in engineering on household and commercial equipment. Model making and development of new units and accessories. Calorimeter and general test, noise and vibration a specialty. Commercial sales or engineering preferred. Congenial work and associates preferred to any name. Further information and references cheerfully given. Box 566.

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When in need of practical, trained shop mechanics, installation or service men, patronize this FREE Placement Bureau. We have competent, trained graduates available in every locality, to meet your requirements. With or without experience. No charge to the men or to you. Write, phone or wire.

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1000 Electric Refrigerators
NAME PLATES UNNECESSARY
FOREIGN ENTERPRISES CO.
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DOORS



Center rail groove type Ace hard rubber door frames are now supplied with the new and improved Roller Bearing feature... at slight extra cost.

Send for Complete Information, Prices and Catalogue. Accompanying cut illustrates roller bearing construction in detail.
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Commercial Evaporators
Domestic Evaporators
Condensers
McCord Ice Trays
Spiral Finned Tubing
Spiral Copper Finned Iron,
Steel or Copper Pipe

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Brunner Commercial Refrigeration plus
an exclusive sales plan spells success.

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